Railway and Traffic Problems

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THE ECONOMIC NECESSITY FOR THE PENNSYLVANIA RAILROAD TUNNEL EXTENSION INTO NEW YORK CITY[1]

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Upon your insistent invitation, it is my purpose to give an introductory address on the subject of "The Pennsylvania Railroad Tunnel Extension into New York City," and the reasons which led to its construction. I am not authorized to speak for the management, but give you my personal views, and if I cause you to more fully appreciate this undertaking, and the foresight, courage and energy of the men who planned it and the men who are constructing it, I believe I will have conformed to the unwritten law of the University as practiced in the Wharton School, "make the boys think."

It is the experience of transportation corporations as truly as of individuals that a selfish and niggardly policy brings ruin, and that permanent development can be secured, and steady and reasonable profits realized, only by exercising forethought, making judicious expenditures for the betterment of public transportation facilities, and providing for future expansion.

The Pennsylvania Railroad Company apparently followed a broad policy in studying the situation in New York City, and in undertaking the responsibility of pioneer in tunneling, for long distance and suburban railroad traffic, the North River, which separates New Jersey from that part of New York City known as the Borough of Manhattan, and the East River, which separates the latter borough from the Borough of Brooklyn and the Borough of Queens on Long Island.

Let us try to discover what must have confronted its management in this study. The lines of the Pennsylvania Railroad Company have terminated on the west bank of the Hudson River since 1871, when it leased the United New Jersey Railroad and Canal

[1]An address before the Wharton School Association, University of Pennsylvania, February 13, 1907.

Company, and the same barrier of the North River lies between them and the commercial and financial metropolis of the country, hampering the development and movement of traffic.

Men have, since 1871, slightly bettered their control over nature, but only last month passengers in crossing the Hudson River, from Jersey City to Twenty-third Street, New York, usually a run of about fifteen minutes, spent between fifty and sixty minutes in fog and ice. The delay was, of course, proportionately large to other points, though the ferry boats are of the fastest and most powerful type.

When the journey has been accomplished, the people are landed only on the fringe of New York City, in the Borough of Manhattan, where the cross-town streets are narrow, and the street paralleling the wharves is filled with drays and heavy wagons, seriously impeding the movement of over 300,000 persons every day.

Again, visit Brooklyn Bridge, or any one of the many ferries of the East River on any business day, morning or evening, and see the discomfort and delay of travel experienced by the surging masses to and from the Borough of Manhattan because nature has interposed another barrier called the East River, and it is responsible for this congestion and for the comparatively isolated condition of the residents of Brooklyn, to say nothing of those residing in other parts of Long Island.

In view of the long deference of mankind to these great rivers, it may well be asked, is this traffic growing, or is its growth so slow, or unprofitable, as to warrant no other method of transportation being used than ferries, and will any progressive railroad company with lines terminating in New Jersey, be content to utilize practically the same facilities for entering and leaving New York City as existed over sixty years ago? In answer to the first question, the traffic growth is marvelous, as a recital of the facts will evidence; the action of The Pennsylvania Railroad Company is the best answer to the second query.

An examination of the situation shows that in the Borough of Manhattan, New York City, the density of population is about eight times as great as the average density of the six other largest cities of the country. The side barriers of the East and North Rivers, and the difficulty of movement between points in such a small and crowded area, may, however, be summed up in the experience that

until within the past year it took the best part of an hour to arrive at a residential section of the city, and for out-of-town places an hour is not an unusual time from the place of business to the place of residence, and generally under the most crowded conditions. Because of these barriers, and the unfavorable climatic conditions of at least six months in the year, the Borough of Manhattan, although crowded and expensive, is considered the most desirable place for residence, while the suburban section within the limits of the City of Greater New York, in the Boroughs of Brooklyn and Queens jointly, have not even the same density of population found in other cities. These unfavorable conditions have not, and doubtless will not, stop its growth, for the population included within a circle of nineteen miles inland radius from the City Hall, Manhattan, was, in 1890, three million three hundred and twenty-six thousand nine hundred and ninety-eight; in 1900, four million six hundred and twelve thousand one hundred and fifty-three; in 1905, five million four hundred and four thousand six hundred and thirty-eight. The increase in ten years was thirty-eight per cent.

In 1913 the population of this metropolitan territory will, at this rate, be at least six millions, and in 1920 will be well over eight millions, without considering the many schemes of improved transportation now under way.

Let me here illustrate the possibility for growth in the Boroughs of Brooklyn and Queens, compared with the Borough of Manhattan, and with the following cities:

	Population.	Area, Square Miles.	Density per Square Mile.
Manhattan Borough	2,174,335	21.93	99,148
Brooklyn Borough	1,404,569	77.62	18,097
Queens Borough	200,686	129.50	1,618
Boston	607,340	42.66	14,237
Chicago	2,050,000	190.5	10,761
St. Louis	750,000	61.5	12,195
Philadelphia	1,500,000	129.5	11,582
Greater Pittsburgh	450,000	37.25	12,080
Baltimore	560,000	31.5	17,777
London, England	4,542,725	118.00	38,498

It is impossible to judge the growth of a city by the increase of its transportation facilities alone. It is a well known fact that in the City of New York the various transportation companies

operating in and near that city have been unable to increase their facilities for travel in proportion to the number of passengers or tonnage carried, but there has been a notable response to every additional avenue of transportation and commerce.

In 1897, four hundred and ninety million one hundred and fifty-two thousand seven hundred and ninety passengers were carried on the elevated and surface lines in the Borough of Manhattan; in 1906, the elevated, subway and surface lines carried one billion seven million one hundred and sixty-one thousand nine hundred and thirty-three passengers, a gain of five hundred and seventeen million nine thousand one hundred and forty-three, or more than the entire number of passengers carried in the year 1897. A similar enormous increase in travel has occurred across the East River. About fifty years ago the first railroad was built in the southwestern part of Brooklyn. This village community was then about two hundred years old and had a population of between twenty-one and twenty-five thousand. Now there is a city of seventy-seven square miles, with a population of one million four hundred thousand, forming a borough of Greater New York City.

Between that borough and the Borough of Manhattan the traffic crossing the East River in 1897 numbered one hundred and forty-three millions. Of these persons about fifty millions, excluding pedestrians, were, in that year, carried over the bridge.

This traffic develops with great rapidity, for, in 1906, a close estimate shows that 295,000,000 persons were carried across the East River. The ferries conveyed about 100,000,000, and the railways on the Brooklyn and Williamsburg Bridges carried 195,000,000, and, although pedestrians tend to make the congestion greater, they are not included in the foregoing figures.

With abundance of room for expansion, and the provision of adequate transportation facilities, the Borough of Brooklyn must become the competitor of the Borough of Manhattan in population and wealth.

Leaving the subject of intra-city travel to consider that carried by the railroads across New York harbor, we find that the railroads on the west bank of the North River, in 1896, carried nearly fifty-nine million people; in 1890, over seventy-two million; in 1896, ninety-four million, and in 1906, we may safely estimate the figure to be one hundred and forty million people.

This is the passenger side only, but how are the necessaries of these people provided for, and how do the commodities from the southern and western states reach them? The freight traffic carried on the lines terminating in New Jersey is, of course, laid on the bosom of Mother Nature and floated across New York harbor on the East and North Rivers, and I would say that at least eighty to one hundred million tons from the railroads are so carried every year.

Such conditions indicate that any additional transportation route must be a distinct advantage to the traveling public, and to the residents of New York City and Long Island, especially if it removed the inconvenience and delay of transfers across the East or North River, and must have had great weight in prompting the Pennsylvania Railroad Company to build the New York extension.

It must be remembered that the problem of the Pennsylvania Railroad in conveying persons and property directly into New York City is not merely a local necessity, but is largely due to the fact that its road is a great avenue of travel to and from the west and the south and that city, which is the metropolis of the country for business and pleasure. This responsibility is a gradual growth since its lease of the United New Jersey Railroad and Canal Company in 1871, when the number of passengers carried was slightly over seven million, and the tons of freight slightly over two million, whereas, during the past year, there were carried on the United Railroads of New Jersey Division twenty-three million passengers and thirty-one million tons of freight.

In this period ferry boats and ferry facilities have been enlarged, but not at the same rate as traffic, except possibly the cost of the boats and the rents of the municipal piers.

From authentic figures published in 1896, the Pennsylvania Railroad carried nearly twenty-five per cent of the passenger traffic over the North River, and out of the one hundred and forty million passengers now carried, it is safe to say that the Pennsylvania Railroad must move yearly in its ferry boats about thirty-three million people in and out of New York City, in addition to vehicles and commodities. The facilities must be so arranged as to conveniently transport them in comfort and good order during the rush hours, as well as the hours when traffic is lighter, and in the winter months, when the conditions of traffic are such as to cause considerable

delay, and the taking of extraordinary measures to insure the safety of passengers.

Across the river from the terminal at Jersey City stood the great metropolis with but one moderate sized railroad station in its center, and its citizens, fully conscious of the isolation of the city, were anxious to remedy it.

The Pennsylvania Railroad Company, in seeking improved methods of transportation to and from New York City, recognized the fact that, trusting solely to ferry facilities, it would fall short of what it believed the future would require for the greater dispatch, comfort and convenience of not thirty-three million people carried to and from the metropolis each year, but what, inside of twenty years, will mean fifty million.

The company when considering its tunnel scheme also had in mind the isolation of Long Island, and the results to be obtained by bringing it into touch by rail with the rest of the world, and accordingly acquired a controlling interest in the Long Island Railroad Company by the purchase of a majority of its capital stock. This should give it the largest part of the long distance traffic, both passenger and freight, from that island. As an estimate of what that may be, let me repeat that Brooklyn alone has a population of about one million four hundred thousand, and will, of course, grow enormously when the island is brought into direct contact by tunnel and improved freight routes with the City of New York and the west and south.

The traffic on the United Railroads of New Jersey Division of the Pennsylvania Railroad in thirty-four years had a growth of 203 per cent in passengers and 1122 per cent in tonnage. I will state this more concretely by saying that since 1895 the tonnage mileage on the main line of the United Railroads of New Jersey Division increased 104 per cent, and the passenger mileage increased 79 per cent. Its traffic density per mile of road is now 15,715,246 ton miles, and 5,210,804 passenger miles.

The passenger traffic on the Long Island Railroad also grew, within this ten-year period, over 33 1-3 per cent, and a like increase has resulted in its tonnage. The total tonnage of the United Railroads of New Jersey Division and the Long Island Railroad for the past year was thirty-three million seven hundred and twenty-three thousand sixty-one tons, and it may be estimated that the New

York and New England tonnage to be handled across New York harbor for the Pennsylvania Railroad lines is in the neighborhood of sixteen million tons per annum.

The situation, therefore, that would confront the company in the next two decades was one requiring instant attention, if it were to be squarely met on a remunerative basis. The interests of the company, as well as the demands of commerce, required liberal provision on the Long Island and New Jersey shores for the freight traffic of the entire metropolitan district, and the carriage of through freight to and from New England states, as well as the passenger extension into New York City and the establishment of a centrally located passenger station, through which inconvenience and delays would be avoided.

Various methods of accomplishing this result had at different times been considered, and at one time centered on a bridge for passenger traffic. On account of the great cost of a bridge, and because all the companies whose railroad lines terminated on the west bank of the North River would not unite in the undertaking, the bridge was eliminated from consideration for the time being. The alternative was the construction of a tunnel line; but the difficulties incident to the operation by steam of a tunnel at the depth and with the gradients required by the topographical conditions, seemed to make a tunnel almost, if not quite, impracticable.

Meanwhile, however, the successful operation of steam railroad trains in tunnels in other parts of the world by electric power indicated a satisfactory solution of the problem for suburban traffic.

I would like to impress upon your minds that this undertaking is not an experiment, or a work hastily undertaken, but one which was chosen as the best solution of the company's difficulties. It is the result of many years of deliberate thought and investigation of railroad terminals and tunnels in various parts of the world, by engineers of experience and men of executive training. Its practical features have been more than confirmed by the amount of work so far completed, and to which I will make further reference.

For many years the company realized that the project was not one that could be financed singly, but necessity eventually became so stern, and the growth of the company so great, that the improvements in engineering methods and plans for tunnels were finally regarded as absolutely certain to produce satisfactory results, and

such as to justify the company proceeding alone in its plans for the development of its own system and the movement of its traffic.

The tunnel extension has a great advantage over the proposed North River bridge, in that it provides a direct connection between the lines west of the Hudson River and the Long Island Railroad. It also connects with the proposed New York Connecting Railroad, and through it with the New York, New Haven and Hartford Railroad, furnishing an all-rail route between the Western, Southern and New England States.

To carry this tunnel scheme into effect required the formation of two companies, one in New Jersey and the other in New York, which are known as the Pennsylvania, New Jersey and New York Railroad Company and the Pennsylvania, New York and Long Island Railroad Company, respectively.

The first named company was incorporated on February 13, 1902, in the State of New Jersey, and is empowered to build a railroad from a point of connection with the tracks of the United New Jersey Railroad and Canal Company, near Newark, thence to and under Weehawken and the Hudson River to a point on the boundary line between the States of New Jersey and New York, connecting there with the railroad of the following company, organized under the laws of the State of New York.

The Pennsylvania, New York and Long Island Railroad Company was incorporated April 21, 1902, under the laws of the State of New York, and it is authorized to construct and operate a tunnel railroad in the City of New York, to be connected with any railroad within the State of New York or any adjoining state, and thereby form a continuous line for the carriage of passengers and property between points within and points without the said city. The western terminus thereof is under the waters of the Hudson River on the boundary line between the States of New York and New Jersey, at points of connection with the Pennsylvania, New Jersey and New York Railroad, opposite West Thirty-first and West Thirty-second Streets, New York City. The eastern terminus of said railroad is at points of connection with the Long Island Railroad, in the Borough of Queens in the City of New York.

Before the New York company could begin constructing its railroad, it was necessary to obtain a certificate from the State Board of Railroad Commissioners that such extension was a public

convenience and necessity, which certificate was granted November 24, 1902.

It was also necessary to obtain a franchise from the City of New York, which was granted by the Board of Rapid Transit Railroad Commissioners on October 9, 1902, accepted by the railroad company on November 5th of the same year, and approved by the Board of Aldermen on December 16, 1902.

The consents required from the other municipal departments and bodies of the city were obtained later.

The conditions under which the franchise was granted were:

That the tunnel company should maintain and operate the railroad in perpetuity, begin the construction of its road within three months after obtaining the needful municipal and other consents, and complete its construction within five years thereafter.

That the tunnel company should pay the city a compensation per lineal foot for the tunnel tracks, and a further compensation for the use, for station purposes, of the underground portions of the streets, other than Thirty-second, which was vacated and sold to the company, and which it so occupies. Such compensation is fixed for the first period of twenty-five years, and is subject to readjustment at the end of each like period. For the first period of twenty-five years it is so adjusted that the tunnel company pays double the amount per annum for the latter fifteen years thereof that it does for the first ten, and on this basis the average for the entire period will be about sixty-four thousand dollars per annum.

Pursuant to the terms of this franchise, the company is undertaking the construction of a line, starting from points under the Hudson River, on the line between the States of New York and New Jersey, and running eastwardly through and under Manhattan Borough, New York City, and under the East River and Long Island City, rising to the surface in its Sunnyside Yard terminus in that city. The terminal station between Thirty-first and Thirty-third Streets, in New York, and Seventh and Ninth Avenues, and extending westwardly to Sixth Avenue, and additional tracks under Thirty-first and Thirty-third Streets, necessary for the operation of the railway and station, are also being constructed.

The importance of the project, and the engineering questions to be solved in its construction, caused the company to create a Board of Engineers, eminent in their profession, to supervise the

preparation of all plans and have general direction of the undertaking, reporting to the executives. The work was then divided into three construction sections, the North River Division, the East River Division and the Meadows Division, and consists of about 13.10 miles of new railroad, the part in the open embracing about 7.66 miles and in tunnels about 5.5 miles.

The principal physical features of the work are elevated tracks constructed in the open from a connection with the New York Division, east of Newark, across the Meadows to the portals of the tunnels at Bergen Hill, and a double track tunnel under Bergen Hill, West Hoboken, Weehawken, becoming two single track iron tube tunnels as they pass under the Hudson River into New York City to a point near Tenth Avenue. When the tracks emerge from the tunnels at that point they begin to increase, and at the terminal station, lying between Thirty-first and Thirty-third Streets and Seventh and Eighth Avenues, will number twenty-one.

At the terminal station site there are about twenty-eight acres enclosed by retaining walls, making a total length of such walls of seventy-eight hundred feet and requiring the excavation of two million five hundred thousand cubic yards. There will be about forty-five thousand tons of steel required for the terminal station, and such station will have ultimately a maximum capacity for about fourteen hundred and fifty trains per day, accommodating about five hundred thousand passengers daily. Within the station area there will be about sixteen miles of track.

Easterly from Seventh Avenue the terminal tracks finally resolve into four tracks in two twin tunnels extending under Thirty-second and Thirty-third Streets to the East River shafts in Manhattan. From the latter point four single track iron tube tunnels extend under the East River and into Long Island, and the lines reach the open surface at the entrance to the Sunnyside train yard, where connection will be made with the Long Island Railroad, and later with the New York Connecting Railroad, to handle traffic to and from New England, as well as Long Island.

The company has been negotiating for the past year for necessary changes in the routes of streets in the Sunnyside Yard District, on Long Island, and such will doubtless be made, so that the construction of the large terminal yard may begin in this undeveloped

region. It will, with its approach tracks, cover about 389 acres, and have a capacity for about 1,500 cars.

The plans of the company, since their first inception, have been materially broadened, as the general recital of the physical features of the extension indicates, and the total cost, including real estate, will probably be not less than $90,000,000.

It will be well to bear in mind that the tunnel project is on a much larger scale than the existing facilities, and indicates further thought for the care and dispatch of traffic. Broadly speaking, it is after all only the result of the enormous growth of the traffic of the Pennsylvania Railroad for over thirty years, demanding some such provision as is now being made for its still greater expansion. Although $90,000,000 seems a large sum, it must be considered that six years will have elapsed between the first and the last expenditures for the work. Therefore, it can readily be seen that if it had been deferred for another decade its cost would have been almost prohibitive, but now it is within the bounds of a reasonable outlay for the results to be accomplished. As proof of this, consider the statement publicly made by a vice-president of the New York Central and Hudson River Railroad Company, that his company required $70,000,000 for the improvement and reconstruction of its station and the electrification of its tracks for suburban traffic. It must be remembered that the New York Central and Hudson River Railroad Company is compelled to carry on its large work of improvement within the territory where its tracks are at present located, involving great responsibility because the traffic must continue to move, whereas, the Pennsylvania Railroad Company, for its $90,000,000, makes a considerable addition to its system, has a terminal in the central part of New York City, with connection to Long Island and New England, and has a clear field to carry on its work.

By the time the real estate and rights of way had been acquired, the management had its plans and specifications prepared by the board of engineers. Contracts were then advertised, the awards made to the lowest bidder, and the active work of construction was undertaken.

The work of investigation and construction has been steadily pursued, until to-day it displays the following evidence:

The masonry work of the several bridges on the line from its connection with the New York Division near Harrison to the portals

of the tunnels at Bergen Hill is making rapid progress towards completion.

The tunnels under Bergen Hill are progressing satisfactorily, and the excavation has been made and iron tubes laid for the two tunnels under the North River, and the concrete lining is now being placed. The excavation of the east shore end of these tunnels is now within two hundred feet of the terminal site.

The excavation at the terminal site of the estimated two million five hundred thousand yards of material, between Seventh and Eighth Avenues and Thirty-first and Thirty-third Streets, is almost completed, and a large part of the foundations for the building and sub-surface work in hand.

Eastward from the terminal site to the Manhattan shafts, considerably more than one-half of the necessary excavation has been completed, and rapid progress is now being made in the excavation and construction of the four tubes under the East River to the Long Island shafts.

About seventy-five per cent of the tunnels east of that shaft has been iron lined, while the excavation is nearing completion. I can better express it by saying that, with the exception of a short distance in and near the terminal, it is possible to walk underground from Bergen Hill, N. J., to and under the East River.

The tunnel extension cannot be considered complete without the following extensive improvements for the development of Long Island and New England traffic, which are being undertaken in connection therewith:

1. The establishment of the eastern terminus to be called "Sunnyside Yard," between Thompson and Jackson Avenues, in Queens Borough, which I have before mentioned. This yard is necessary, not only for the efficient operation of the tunnel extension in Manhattan, but also for the proper care of the additional traffic which will result from the said extension, and its interchange with the Long Island Railroad and New York, New Haven and Hartford lines.

2. The elimination of grade crossing and the electrification of the Long Island Railroad within the city limits. These changes improve the lines from Flatbush Avenue station out to Brooklyn Borough line, and from Long Island City station to Jamaica, and from that station by the Manhattan Beach line through East New

York around to the Bay Ridge Terminal, on the southern shore of Long Island.

3. The Pennsylvania freight terminal yard and piers at Greenville, N. J., connecting by the proposed straight and relatively short ferry across the upper bay with the Bay Ridge terminal of the Long Island Railroad.

4. The enlargement of the facilities for handling freight in the Boroughs of Brooklyn and Queens, by the establishment of many yards, which are necessitated by putting these boroughs in touch with the rest of the country by rail and for their local requirements.

5. The completion of what is known as the "Atlantic Avenue Improvement," in Brooklyn, requires the removal of steam railroad tracks from the surface of that avenue, at the joint expense of the railroad company and the city, and a large and very expensive improvement, at the sole cost of the railroad company, of the passenger and freight stations at Flatbush Avenue. This point will in the future probably be the most important distribution point for passengers in Brooklyn, the improved station and terminal being designed to occupy sixty-one lots. When the New York Connecting Railroad is finished, residents of Brooklyn and Queens will travel by that route to New England and the north and east, and by way of the Pennsylvania terminal in New York City to the west and south.

6. The New York Connecting Railroad is to be twelve miles long, to run through a part of Queens Borough, then by a bridge across the East River at Ward's and Randall's Islands, and will be the connecting link for passenger and freight traffic to the territory mentioned in the previous paragraph. It will abolish the largest part of the floatage in New York harbor now carried on by the Pennsylvania Railroad Company by delivering and receiving freight at Bay Ridge, L. I., and will carry all the passenger traffic through the Pennsylvania Railroad tunnels.

7. Construction of the Glendale cut-off between the main line, Montauk Division and Rockaway Beach Division of the Long Island Railroad. This is necessary for the improved passenger service and to give direct connection with the Pennsylvania tunnels through New York City.

8. New piers and docks on Newtown Creek at its confluence

with the East River for traffic to and from the Long Island Railroad.

9. Electrification of the United Railroads of New Jersey Division from Newark into Jersey City, for local passenger traffic.

In all of these plans the residents of the City of Greater New York and its public bodies are materially interested, and it is largely due to this public sentiment that the company has been successful in having them approved.

The accompanying map will enable you to clearly comprehend the vast improvements contemplated and their tremendous possibilities to the Pennsylvania Railroad system, the City of Greater New York, and, in fact, the entire country.

Summing up, the Pennsylvania Railroad Company's New York Tunnel Extension is a line of railroad from Newark, N. J., to Port Morris, N. Y., through the Borough of Manhattan and Queens, having for its principal purposes:

The construction of a large passenger terminal centrally located in the City of New York;

Making the Long Island Railroad an integral part of the system;

Affording the Boroughs of Brooklyn, Queens and the balance of Long Island abundant opportunity for development; and

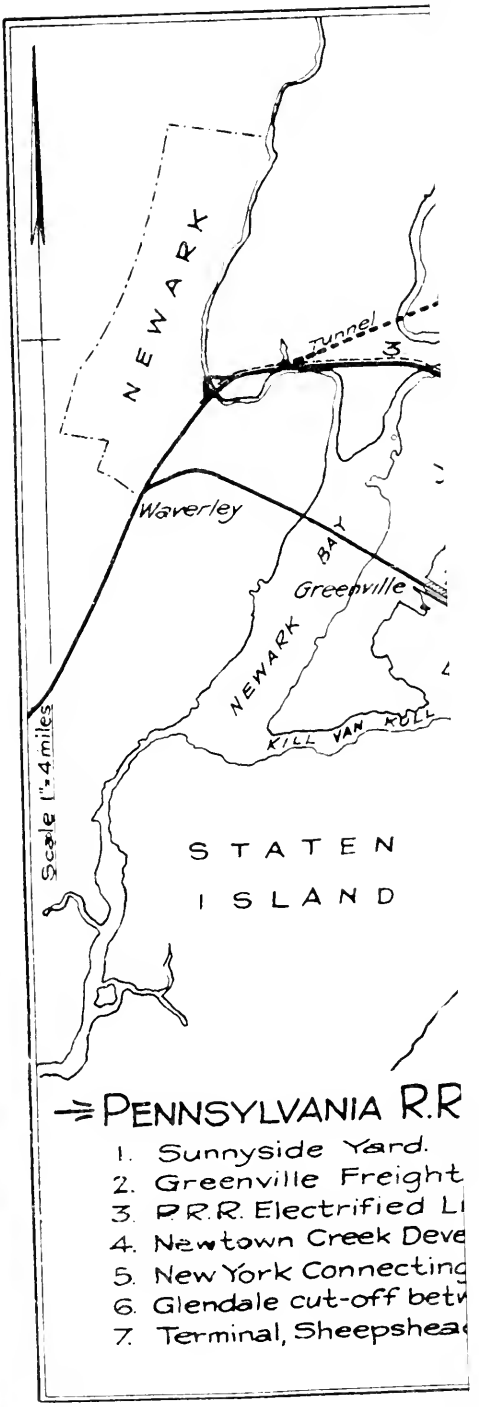
Binding the New England States with those of the west and south by means of the New York Connecting Railroad.

The reasons for its construction apparently were:

First—To provide for the future by enlarging the present facilities for freight and passenger traffic, because of the continuous growth in passenger and freight traffic, and to accomplish it before the cost became almost prohibitive, or the task impossible, because of the construction of other underground transportation lines.

Second—To run its passenger trains into a central location in the City of New York, instead of a station on the west bank of the Hudson River.

Third—To open to the people in the thickly populated Borough of Manhattan the residential sections of Long Island, and to offer to Newark and other populous towns in New Jersey direct and quick access to the resorts on Long Island beaches.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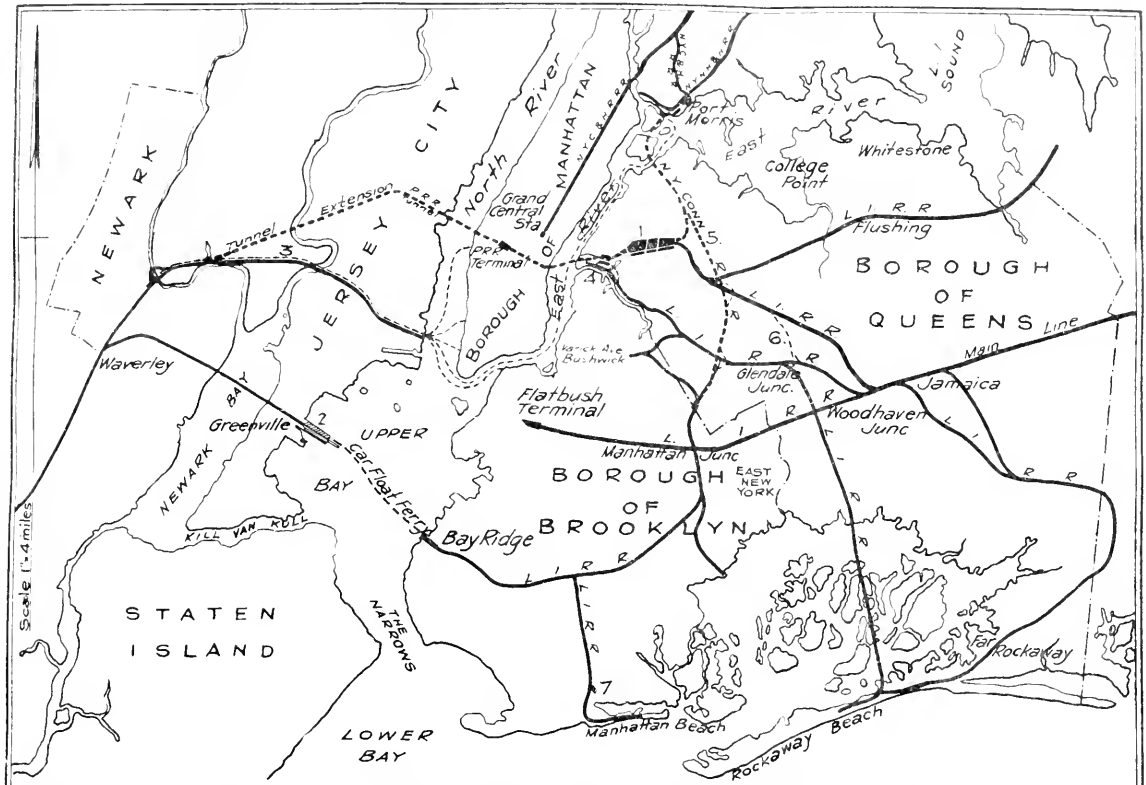

⇒ PENNSYLVANIA R.R. CO'S NEW YORK TUNNEL EXTENSION AND CONNECTIONS. ⇐

1. Sunnyside Yard.
2. Greenville Freight Terminal.
3. PRR. Electrified Line, Newark to Jersey City.
4. Newtown Creek Development - Bulkheads, piers, tracks.
5. New York Connecting Railroad.
6. Glendale cut-off between Main Line and Rockaway and Montauk Divisions.
7. Terminal, Sheepshead Bay.

Fourth—To provide a highway for all-rail traffic to New England.

Fifth—To give the Boroughs of Brooklyn and Queens, with their population of over 1,500,000, direct railroad connection to and from the New England, Southern and Western States, and to supply freight facilities with similar connections in these boroughs, thereby properly serving the entire area of Greater New York through freight stations, suitably located to develop its commercial interests.

Sixth—To provide additional freight facilities and shorten the water transportation trip for the New England traffic across New York harbor from about twelve miles to three and four-tenths miles.

Seventh—To make its Long Island Railroad investment remunerative within a comparatively short period.

Eighth—To obtain a proper share of the golden future by judicious expenditures in a territory having abundant promise, whether viewed from the growth of traffic in the past or the outlook for the future.

THE POOLING OF FREIGHT CARS

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The inability of many of the railroads of the country, or portions of numerous other railroad systems, to handle promptly the freight offered for transportation has increased the importance of devising some method of adding to the efficiency of the enormous freight car equipment now in use upon American railways. There is no topic in railway management more discussed than the car shortage or car surplus question.

This is a comparatively recent problem that has arisen as the result primarily of the enormous increase in traffic during the past seven years, and secondarily of the steady development of through shipments or long-distance traffic. The development of the country, the widely distributed population and industry, and the growing unification of the transportation business of the country as a whole are causing the former method of interchanging cars to become antiquated and practically unworkable.

Prior to 1872 connecting railway companies did not exchange freight cars regularly except in the case of cars that were assigned to freight lines and which were marked and known as "line cars." The payment for the use of cars that were interchanged was made by junction agents at the rate of two cents per loaded mile run. In 1872 this charge was reduced to one cent per mile run, loaded or empty, settlement being made by the accounting department of the company borrowing the car by a report made to the corresponding department of the company owning the car. In August, 1876, the payment per mile run was reduced to three-quarters of a cent, and later a further reduction to three-fifths of a cent was made, the charge in each case being for the entire distance traveled by the car, whether loaded or empty.

This system of payment upon the basis of mileage proved fairly satisfactory during the prosperous years preceding 1893. Then

when the panic came which was followed by a period of five years of business depression, the railroads of the country were troubled with a surplus rather than with a shortage of equipment. Many roads were glad to have their equipment used by other companies. During the period from 1893 to 1899 there was comparatively little increase in the freight car equipment, and the consequence was that when business became active, just before 1900, every railroad soon began to clamor for cars. The situation which began to develop in 1899-1900 has grown steadily more acute year by year, until at the present time every railroad company is obliged to confess itself unable to supply the shippers promptly and adequately with a sufficient number of cars.

Various efforts have been made to deal with this steadily increasing difficulty and perplexity. As a result of an agitation in 1901 the railroads of the United States on the 1st of July, 1902, changed the basis of settlement for the use of foreign cars from miles run to a per diem basis. The payment agreed upon was twenty cents per day, the owner of the car having the right to demand its return when the car had been absent from its lines twenty days. If the car was not returned within ten days thereafter, viz., thirty days from the time it left the line of the owning company, the per diem charge was advanced from twenty cents to one dollar. It was hoped that this change in the payment for the use of foreign cars would solve the question. It did, indeed, prove to be much superior to the mileage basis of payment, and experience has shown that time is a better standard than mileage in fixing the charges for the rental of cars.

A fundamental defect in the per diem penalty plan of charging for the use of foreign cars is becoming evident: it has had the effect of pooling cars moving in the direction of roads receiving large volumes of inbound business, and of taking equipment away from the lines of roads having a large outbound traffic. Thus, for instance, road A. might deliver 1,000 cars to road B. in a month, while during the same time road B. would have only 600 carloads of freight for delivery to A. If under these conditions B. had an unusual demand for cars, it would retain the 400 cars thus received in excess of those given it and use the same to carry on its business with other companies, viz., to supply its own equipment needs. The method of paying for the use of foreign cars does not insure a

prompt return to road A. of the equipment sent out by it in excess of the equipment received in the transportation of traffic coming to it from connecting lines. Railroad companies that are large originators of traffic are easily denuded of equipment, and are without the power under the present rules to get their cars back within a reasonable time.

As the demand for cars has increased, as storage facilities have become inadequate with the growth of traffic, and as the average number of miles which a carload of freight is moved has grown greatly, the per diem of twenty cents has come to be entirely inadequate. This fact was so clearly recognized by railroads that on the 1st of January, 1906, the per diem was raised to twenty-five cents per car, with a per diem penalty of seventy-five cents additional at the end of thirty days. This increase was soon shown to be insufficient, and the result was that in the autumn of 1906 a number of railroads agreed among themselves to charge each other, temporarily, a per diem of fifty cents, without the penalty feature. The roads which did not become parties to this agreement have continued to charge the old rates of twenty-five cents per day, increasing to one dollar per day to the end of thirty days.

Even the per diem charge of fifty cents has not met the situation. There is still a severe car shortage, and it will be impossible for the railroads to secure from the car builders a sufficient number of cars during the present calendar year to relieve the situation. At the close of January, 1907, a number of railroads agreed to enter a freight car pool, provided a satisfactory plan for regulating such a pool could be worked out. Thus far no practical plan has yet been presented. Everybody seems to recognize that the per diem system of payment ought to be changed, but the problem of working out a car pooling arrangement that is satisfactory to all parties in interest has thus far proven impossible of solution.

One thing, however, is certain: the rules that have been recommended providing for the return of cars as per marks or ownership are impracticable, for the reasons that every restriction placed upon the movement of a car reduces its availability, increases the mileage which it travels without a load, and adds to the time and expense required for switching. Some plan must be found for controlling the movement of freight cars before traffic officials can hope to discover a practical solution of the problem.

In order to deal adequately with the distribution and movement of cars a system must be established that will be in accordance with the following principles:

1. Equity must be secured alike to owner and user of the car, viz., to both delivering and receiving lines.

2. The payment must reward the efficient use of equipment and adequately penalize its inefficient use.

3. The reward should be in proportion to the degree of merit, and the penalty should correspond with the degree of the offense.

4. The system of control should minimize operating expenses as far as possible, and should provide definitely for settlements day by day or week by week between the delivering and receiving lines.

5. No unadjusted discrepancies between car owner and user should be permitted.

6. The system should insure to each road the full use of its own equipment, or of cars providing an equivalent equipment.

7. The system should provide for maximum loads, and should minimize as far as possible the empty-haul mileage.

In the opinion of the writer these principles of car control and distribution can be carried out in practice only by a system of pooling freight cars in accordance with an equitable arrangement that will prevent the appropriation by any one or more lines of the larger and better cars, and that will provide for a daily settlement between delivering and receiving lines. This system would minimize the expenses of operation and maximize the efficiency of the equipment. As the result of a careful study of the subject and of business experience, the author recommends the following plan for the organization and management of a freight car pool. He believes that it solves every element of the problem, and that its adoption by the railroads generally in the United States would enormously increase the efficiency of their freight equipment.

Suggested Plan.

1. An inventory to be taken of every car on each line, home and foreign, at 12.01 a. m., date of beginning of plan.

2. A statement of equipment owned at 12.01 a. m., date of operation.

3. The difference between ownership and actual cars on hand to constitute a debit or credit, as the case may be.

4. Each day at 12.01 a. m., a report to be rendered, in triplicate, by each agent, of cars delivered to connecting lines, to the agent of such line, for the

twenty-four hours preceding; such reports to be checked and verified by both agents (or preferably by a joint clerk) one copy to be kept by the receiving agent, two copies to be returned to the delivering agent, one for his file and one to be forwarded, with notations thereon, to the district manager of the pool. The receiving agent to be required to take an impression copy and send the original to his car accountant.

5. In case of omissions, errors or discrepancy in statements, such discrepancies to be adjusted within twenty-four hours, the delivering line, in the meantime, assuming the expense of car hire until it proves delivery; if not adjusted in ninety-six hours then the inspector of the pool to investigate, and his report must be accepted by both lines, subject to appeal to the district manager.

In all cases of dispute, when finally decided, all errors and omissions to be adjusted on current interchange report, which report shall show dates, initials and car numbers "as reported" and "as should have been reported," also difference "Dr." or "Cr."

6. In cases where such discrepancies become chronic, the pool to place a joint man to locate the responsibility; the expense of such joint man to be paid by the road at fault.

7. The balance Dr. or Cr. to be carried forward each day; the cars delivered the current day added, the cars received deducted, and balance Dr. or Cr. shown and certified to. Not later than the 5th of each month a summary of the past month to be rendered by the agent of the delivering line to the agent of the receiving line, showing, by date, the daily balances, which must be certified to at once.

8. The Dr. balance to be paid for at such flat rates as may be agreed upon, or may be based on some sort of a graduated plan about as follows:

First fifteen days at	25 cents per car per day.
The sixteenth day at	30 " " " " "
The seventeenth day at	35 " " " " "
The eighteenth day at	40 " " " " "
The nineteenth day at	45 " " " " "
The twentieth day at	50 " " " " "
The twenty-first day at	55 " " " " "
The twenty-second day at	60 " " " " "
The twenty-third day at	65 " " " " "
The twenty-fourth day at	70 " " " " "
The twenty-fifth day at	75 " " " " "
The twenty-sixth day at	80 " " " " "
The twenty-seventh day at	85 " " " " "
The twenty-eighth day at	90 " " " " "
The twenty-ninth day at	95 " " " " "

The thirtieth day at $1 per car per day; and thereafter at $1 per car per day.

The holding of any individual car in excess of 60 days to be charged for at agreed rate per car per day, in addition to the exchange balance rates, as may be agreed on. Another plan that suggests itself is, in addition to a flat rate for Dr. balance each day to have an arbitrary percentage of all revenues received from freight, switching, car service, etc., deducted and Cr. to pool—to be divided pro rata on equitable basis, or used to maintain full quota of cars in pool.

9. All cars to be repaired on the line where cars are in bad order, under rules to be agreed upon by the M. C. B. of lines in the pool.

10. Cars accepted in bad order to be transferred at expense of delivering line.

11. In cases of cars destroyed, such destruction of car to be reported by wire or United States mail; from date of such notice the road destroying the car to be entitled to a claim of not to exceed 60 days for re-building the car, or thirty days to pay for the same; if payment is made then the commissioner or manager shall credit such road and debit the car owner.

12. In cases of new cars built, such cars, when traveling under freight charges, shall not be counted in exchange account and shall be shown on interchange report as "new cars" and credit shown thereon; when such cars are delivered to connecting road for service, then such road shall be debited with such cars, and owners credited. (Cars returned under M. C. B. route cards to be credited same as good-order cars.)

13. When a road cannot receive traffic on account of congestion, embargo, or other causes, it must protect itself by stopping receipt or loading for such line until interchange is resumed, or it may be arranged between such lines to hold such traffic and bill on line requesting cars held. (Make it a matter of local arrangement and in no way interfere with exchange account.)

14. In the case of cars in switching service, the roads in interest to arrange to bill each other for such cars for the actual time such cars are in the service of the carrier line, plus one day for switching and one day for the return of car.

THE ELECTRIFICATION OF AMERICAN RAILROADS

By Thomas Conway, Jr.,
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The most important problems confronting railway officials at the present time are the reduction of the costs of operation and the increase in the efficiency of the service. No undertaking is too vast and no expenditure too great if it can be shown that the results secured will increase the profits of the system. On every hand grades are being reduced, curves and grade crossings eliminated and cut-offs constructed in order that the cost of operation may be decreased. The methods by which traffic may be increased and the cost of its movement diminished are being carefully studied by railroad managers. Under such conditions it is little to be wondered at that the possibilities of using electric power upon our railroads should receive careful attention.

Electricity as a motive power in transportation work was introduced little more than a decade ago. The substitution of the new power for the cable line and the horse car upon our city streets entirely revolutionized urban transportation conditions. Not only did it make the schedule much more rapid, but it made possible the introduction of larger cars and a general improvement of the system which was impossible with the former methods of propulsion. So successful was electric power for street railway work that within a very few years a network of lines was constructed extending from the large centers into the country in all directions. The development of these large interurban systems which for mechanical perfection and excellence of equipment and service rival the older steam railroads clearly demonstrated that electricity had reached the point where it was a formidable rival of the steam locomotive. It had demonstrated its ability to give satisfactory service under the most trying conditions and had made profitable the operation of lines which could not have escaped insolvency had they used the older form of power.

The steam railroads began to investigate closely the possibilities

which seemed to be open to them. The New York, New Haven and Hartford was the first road to adopt electricity for railroad work. Its traffic situation is rather peculiar. Extending through a densely populated country and having a passenger traffic out of all proportion to the average for the United States, the road approaches more closely to the interurban, in the similarity of its traffic conditions, than any other system in the country. Large sections of this line immediately contiguous to populous centers have been equipped to utilize electric power, and there is in operation upon this system an electric passenger service which is unsurpassed. The most recent converts to electric power have been the New York Central and the Pennsylvania Railroads. The former is expending seventy million dollars in electrifying that portion of its system immediately contiguous to New York City, upon which there is such a dense suburban traffic, while the Pennsylvania has completed and put into operation a third-rail electric line from Camden to Atlantic City, and is making rapid strides toward the electrification of the eastern end of the Long Island Railroad, which will play an important part in the New York terminal improvements now under construction. To the layman, therefore, the time does not seem far distant when electricity will displace steam as a motive power. The dirty, noisy steam locomotive will, it appears, be speedily relegated to the place occupied by historical relics.

The substitution of electricity for steam as a motive power will be made, not because of mere sentimental reasons, but because it has been sanctioned and approved by engineers and financiers after exhaustive investigation and inquiry. The change entails an enormous expense, requiring the issue of large amounts of new capital, which will result in a reduction in dividends or may even seriously impair the security of existing bonds if the new form o propulsion does not bring about a material increase in earnings or a decided decrease in the expense of operation.

There were on June 30, 1905, 48,357 locomotives in active service in the country. There are no accurate statistics showing the cost of this equipment. At the present time a freight or passenger locomotive costs about $15,000. If we take into consideration, however, that a considerable portion of the equipment consists of shifting engines and other units of smaller size and of lower cost, it seems fair to conclude that it would cost in the neighborhood of $12,000

per locomotive to duplicate the equipment now in service. At this figure the American railroads have invested $580,284,000 in steam locomotives which would sooner or later be rendered useless if the change was made.

It is to be presumed, however, that the conversion would occur gradually. The steam locomotives as they wear out would be replaced by electric equipment, the cost of which would be taken out of the earnings of the property in the same manner as has been universally followed in the past. Under such conditions, therefore, it is fair to assume that, since an electric locomotive of the same tractive power and speed can be purchased for approximately the same amount now charged for a steam locomotive, the railroads would be able in a few years to convert their equipment without increasing the fixed charges on their properties. An examination of the annual reports of a number of the largest railroads indicates that about one-twentieth of the locomotives are renewed each year. It is likely, therefore, that the change of power could be made without an increase in the capitalization of the company in all cases except where the initial substitution of electricity is on a large scale as compared with the total rolling stock equipment of the railroad making the change.

It is claimed for the electric locomotive that it is much more effective and capable of more continuous use than the steam locomotive. The report of the Interstate Commerce Commission for 1904 shows that the average effective train mileage, not including work trains, pushers or shifting mileage, was fifty-eight miles per locomotive per day. If an allowance is made for the items which were not included and for the use of double-headers and pushers where heavy grades are encountered, it seems fair to assume that the average daily run of a locomotive in the United States is about eighty miles. This figure, however, is a rough approximation. The performance of a passenger locomotive in long distance work will vary from ninety to nearly two hundred miles a day, and upon some lines high-speed engines will make as much as three hundred miles in twenty-four hours. The effectiveness of the locomotive is, however, much less pronounced in the other classes of service.

The recent investigations of the Interstate Commerce Commission have brought out the fact that the average locomotive is actually on the road not more than six hours in each twenty-four

hour period. The remainder of the life of the locomotive is spent in yards and terminals, in making up trains, or awaiting an opportunity to take its place upon the main line. Almost one-third of each day is spent in the roundhouse, in order that the many small repairs which are constantly necessary can be made. The cleaning of boiler tubes, the inspection of the many bearings and journals and the adjustment of the complicated and delicate mechanism entail a heavy expense and occupy a large amount of time. The electric locomotive is very much more simple. It has the advantage of being capable of exerting its maximum tractive power upon very short notice. It is not necessary to occupy a large amount of time in firing up, and the repairs which must be made require less time and seem to be less expensive. It is urged, therefore, that the same number of electric locomotives will be much more effective than are those now in service.

There is little data available upon which to compare the relative cost of maintenance of electric and steam equipment. In 1904 the average expenditure for repairs per locomotive mile upon the steam equipment was 8.1 cents. The amounts spent by the leading lines using electric power are as follows: Manhattan Railway, 5 cents (estimated); New York Subway lines, 7 cents (estimated); Wilkes-Barre and Hazleton Railroad, 3.8 cents (actual); Lackawanna and Wyoming Valley Railroad, 8.4 cents (actual); the Niagara, Buffalo and Lockport Railroad, 7.9 cents (actual).

These comparisons, however, are not sufficient to warrant any general conclusions. In no case is it possible to secure a record of the performance of an electric locomotive as separated from the cost of repairing motors placed upon the trucks of passenger cars in the manner usually followed upon elevated, subway and interurban lines. The advocates of electric traction claim that it is possible to maintain an electric locomotive at a cost not exceeding 5½ cents per mile run. When we consider, however, that they are basing their estimates upon the cost of maintaining equipment which is practically new and which consequently requires little or no attention, it seems advisable to conclude that the reduction in the maintenance cost of the new form of the equipment is not likely to play any important part in decreasing the cost of operation.

The production and transmission of power necessitates large and important expenditures. In addition to the cost of the power-

house, which will vary with the volume of traffic and the character of the country, it is necessary to install a complete system of power distribution. The method which seems to be more generally favored is the third-rail system, using an alternating current with a voltage upon the rail ranging from 5,500 to 11,000 volts and with a feed-wire potential in the neighborhood of 60,000 volts. The cost of such a system varies greatly. Not only does the amount of copper depend directly upon the severity of the demand which is placed upon the distributing system, but the great difference in the standards of overhead work makes very difficult any accurate estimate of the amount of money which would be necessary to electrify the railroads.

If a type of overhead construction similar to that which has been adopted by the New York, New Haven and Hartford and the New York Central is taken as a standard, there is little difference between the cost of an overhead trolley line and the third-rail system. A line equipped with No. 0000 wire, with the type of insulator necessary to handle 11,000 volts, supported by steel cables and suspended from substantial steel bridges, set in concrete, spanning the tracks is fully as great as third-rail construction where steel poles are used to carry the feed wires. The cost of such work is approximately $10,300 per mile where two tracks are to be equipped, while for single track work, using steel poles and brackets and catenary support, the cost, at the present time, closely approximates $4,800 per mile. Of the 216,974 miles of railroads in operation in the United States in 1905 approximately four per cent is double track, including the yards and sidings for single-track lines. Upon this basis the average cost of overhead steel construction of the type considered would, therefore, average approximately $5,000 per mile of track, entailing a total expenditure for the equipment of the mileage now in existence of $1,084,870,000. In addition to this, it would be necessary to expend about $500 per mile of track for bonding, which would add $108,487,000 to the capital account of our railroads.

It is improbable, however, that such an expensive system of power distribution would be generally adopted. The average railroad would content itself with the use of wooden poles and a construction very similar to that followed upon the best interurban roads. It is very unlikely, however, judging from interurban ex-

perience, that it would be possible for a railroad to install a satisfactory system of overhead work at a cost of less than $4,000 per mile.

The weakness in a system of electric traction at the present time is not in the apparatus for the generation of power, nor in the electric locomotive, but is to be found in the power distributing system. The American types of dynamos and motors are so efficient that further improvements will have but little effect upon the cost of operation. The loss of power and energy occurs between the bus-bar on the switchboard and the motor. Even under the most favorable conditions it is necessary to develop about 1 2-3 horse power in order to secure a horse power at the motor.

It is obvious that under such conditions the electric motor is badly handicapped. The steam engine is a direct connected machine, applying the power generated to the drivers with little or no waste. The loss of energy which occurs in the distributing system upon the electric line must, therefore, be overcome by the more effective method of power production which is possible in a plant where large condensing engines can be employed and where it is possible to use a type of boiler which will extract a greater amount of energy from a given weight of coal. The relative inefficiency of the locomotive comes about because of the necessity of using a high-pressure engine and a boiler which is relatively simple, since it must stand hard usage and rough treatment. There are no figures accessible showing the cost of power per horse power upon a locomotive. It is only possible to make a comparison by figuring the cost of moving the tonnage annually hauled by railroads and the approximate weight of the passengers and equipment which are handled under the two systems of propulsion.

Mr. Louis B. Stillwell and Mr. Henry Sinclair Putnam, in a paper read before the meeting of the American Institute of Electrical Engineers, held in New York in January of this year, submitted an elaborate calculation intended to ascertain the relative cost of electric and steam power for railroad work. According to their estimate, it would be possible to effect a very material saving in the cost of operation by using electric power. "If all the railroads of the United States were to-day operated by electricity, using the single phase alternating current system at the potential adopted for the equipment of the New York, New Haven and Hartford

Railroad, the energy required for operation being developed by power plants such as are to-day in extensive use and transmitted at potentials well within the limits established in practical service, and if the rolling stock equipment consisted of locomotives and multiple unit trains fitted with motors and control apparatus, no better than the best which now exist, the aggregate cost of operation, which in 1905 amounted in round numbers to $1,400,000,000, would be reduced by about $250,000,000."

"In 1905 the average gross earnings of our railroads per mile of line were $9,598, and the average operating expenses $6,409. The foregoing calculation leads to the conclusion that high class electric equipment would reduce this average cost to $5,265. The difference is $1,144 per mile of line, against which apparent saving must be charged the annual interest and depreciation of the power plant, the addition to permanent way equipment comprising overhead construction and track bounding, and the transmission circuits and the sub-stations with their equipment."

These conclusions were endorsed, in the main, by Mr. W. S. Murry, chief electrical engineer of the New York, New Haven and Hartford, and by the experts of the Westinghouse-Church-Kerr Company, and the General Electric Company. It seems fair to assume, therefore, that they are reasonably accurate. With this data as a starting point, the decision of the question as to whether or not the substitution of power will be profitable under present-day conditions is an accounting proposition. In order to operate the present service it will be necessary to have a chain of power plants capable of delivering a maximum output of about 2,800,000 kilowatts which would cost approximately $400,000,000. If we add to this $1,084,870,000 as the cost of the distributing system, $108,487,000 for the expense of bonding tracks, and $220,000,000 for sub-stations, rearranging telegraph lines and special work in yards and terminals, we find that the change in power, exclusive of the cost of locomotives, which we will assume is gradually provided out of earnings, involves an expenditure of $1,813,357,000. If we allow the usual ten per cent rate of depreciation which has been found necessary in the case of the best interurban roads, it will be seen that the annual cost of maintenance of these items will be $181,335,700, while the saving effected by electrical traction will be only $250,000,000. The saving in the cost of operation, therefore,

because of the introduction of electric power would be $68,665,000. In order to effect this saving it will be necessary to make an investment of between $1,800,000,000 and $2,000,000,000. If the railroads secure this money by issuing four per cent bonds, which is about the lowest rate that it could be obtained for, even under the most favorable conditions, the annual interest charge would be between $72,000,000 and $80,000,000. If these calculations are correct the transformation of power would involve an increase in the total expenditure of between $8,000,000 and $12,000,000 per year. When we consider, moreover, that these results are based upon a period when the railroads are congested with traffic and when conditions prevail on every hand which are most favorable to demonstrating the economies of electric traction, it is easy to understand why railroad officials regard the results of electric operation as being extremely problematical. The effects of a decrease in the tonnage in lean years could be offset much less readily with the new form of power. Interest charges and depreciation would go on unchanged, while the cost of power production per kilowatt would steadily increase with the shrinkage in the amount consumed. The experience of the interurbans demonstrates that while the cost of operation per car-mile rapidly decreases with a growth in the business, yet the possibilities of cutting down expenses in periods of declining traffic are very limited. Electricity is pre-eminently the power upon lines where great traffic density prevails, but it compares poorly with steam where traffic is light and trains infrequent.

At the present time, therefore, it seems highly unlikely that electric power will be used except under special conditions and where the traffic is heavy. Most of our railroads are even yet in a half-developed condition. It will be years before they will be able to show a traffic sufficiently dense to warrant the expenditure which is entailed in the installation of electric power. The success of the New York, New Haven and Hartford and of the New York Central, and the adoption of the third-rail system by the Pennsylvania for its Long Island service, marks the beginning of the use of electricity as a motive power upon lines where the passenger traffic constitutes a very important item. The operation of a large number of trains in small units is much less expensive with electricity than with steam, and in addition the provision of clean, attractive and quick service stimulates traffic to such a degree as to materially

affect the earnings of the property. As the short distance passenger work increases we may expect to see a gradual substitution of electricity for steam upon the sections of our railroads contiguous to the large cities and towns.

Electricity will also play an important part upon the mountain divisions of our large systems. It is upon these stretches of track that we have the coincidence of water power and sharp grades. The production of the current in such sections can be carried on at a minimum expense. The electric locomotive possesses an immense advantage over the steam engine where a high maximum tractive work for a limited time is demanded. It is possible to force a locomotive far beyond its rated power for a few minutes, but the boiler soon falls behind the demands which are made upon it, with the result that we have a reaction rendering the machine even less effective than it would be under normal conditions. An electric locomotive not only exerts its maximum power within a few seconds of the time it is put in operation, but it can be forced above its normal rate for long periods of time without materially affecting its performance. Experiments have shown that it is possible for an electric locomotive to go from twenty-five to fifty per cent above the rating, and in cases where the strain is only for a few minutes it has been possible to get out of them one hundred per cent more power than they were calculated to produce. When we compare these results with the possibilities of forcing steam operated machines and when we consider the extreme cheapness of power upon mountain divisions, we can readily understand why it is that so many of the large systems are taking steps to electrify these troublesome stretches of their roads. Electricity as a motive power has made very important strides, and has demonstrated its superiority where unusual conditions exist and where great density of traffic is encountered. The universal adoption of electricity, however, is a long way off. Not until a better system of power transmission has been devised or the traffic of our railroads has become much denser can we hope to see it generally adopted.

PUBLIC REGULATION OF STREET RAILWAY TRANSPORTATION

By Emory R. Johnson,
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The General Problem and Methods.—Street railway transportation being a monopoly service, its regulation involves the public control of a monopoly. The fact has for some time been generally accepted that no effective regulation of street railway fares or service can be accomplished either by chartering many rival companies within the same municipal area or by enacting stringent laws against the consolidation of the several lines into a single system. Indeed, the service can be much better performed, and at a lower cost, by the large company than by numerous small ones. Consolidation makes possible a more systematic extension of the tracks, and an earlier adoption of technical improvements; but the unification of the control of the service, although it results in a more economical and efficient service, so strengthens the power of monopoly possessed by the corporations performing the service that effective public regulation is demanded.

Public control can be accomplished either by public ownership, or by the regulation of the corporations entrusted with the performance of the service. Both methods have been adopted, and each has proven successful. The determination of which is the better plan for a particular community to adopt is mainly a question of expediency, whose solution depends on the administrative ability of the local government, and upon the traditional attitude of the people toward the government. As with the question of state ownership of railroads, so with the problem of public ownership of street railways, the same solution may not be wise for all countries or for all periods of time.

The American System of Regulation.—In the United States the street railways are owned and operated by corporations chartered by the states from which the companies receive charters

imposing such conditions upon the companies as the states may deem wise at the time the grant is made. After receiving the charter from the state the corporation must secure from the city in which the lines are to be located a franchise giving permission to construct the proposed railway, and the city has the right to stipulate the conditions under which the corporation may use the streets for laying tracks and operating its cars.

American states and cities place fewer restrictions than European countries do upon the powers of street railway companies. At the beginning of street railway construction, the practice of the states was to grant franchises in perpetuity; and such, indeed, is the policy of many states at the present time, but there are some states which now restrict the duration of the franchises to a limited period of twenty to fifty years.

The power to regulate fares and to make stipulations as to the frequency of the service, the paving and repair of the streets occupied, the removal of snow, and to supervise other details of management is possessed by the cities and towns, and recently the tendency of the cities has been to exercise their power to regulate the street railway service with more detail than was formerly customary.

With the rapid growth of cities and of suburban and rural population, and with the use of electric traction, the profits of the street railway business have increased so greatly as to enable the corporations performing the service to pay the public more for the privileges received from the state and city. Moreover, with the development of great cities, with the more vital dependence of the public upon street railway transportation, and with the consolidation of the street railway lines in our large cities, and in the more populous country districts, so that single corporations frequently control hundreds of miles of tracks, the necessity for careful government regulation of street and electric railways becomes increasingly necessary. The question is not whether there should be public regulation of the street railways, but how the public should exercise its control.

Street Railway Regulation in Massachusetts.—The methods and tendencies of public regulation of street railways in the United States may be illustrated by referring to Massachusetts, New York City and Chicago. In Massachusetts the law provides that the street railway companies chartered by the state shall secure the

streets for the location of their lines "with such restrictions as in the judgment of the selectmen or the aldermen the public interests may require." The terms and conditions under which street railways may be built are thus under the complete control of the local government boards. The state in the past has usually granted the franchises in perpetuity, but the city and town governments may at any time revoke the right and concessions that have been allowed, if the companies give adequate reason for such revocation by failing to observe their obligations to the public. Although this power to revoke a franchise has not been exercised frequently, the possession of the power has doubtless enabled the towns to secure better terms when negotiating with street railway companies.

The State Board of Railroad Commissioners of Massachusetts has supervision over both railroads and street railways. The commission's approval of the location of a proposed street railway must be secured before the line may be constructed. The commission regulates the amount of stocks and bonds the company may issue, and its consent must be secured to the terms of a lease, sale or consolidation. It also has supervision over the fares and the service of street railways, with power to make investigations and to recommend such regulative legislation as may be deemed necessary. The over-capitalization characteristic of street railway companies in many states has been prevented in Massachusetts.

The careful foresight exercised by Massachusetts in the regulation of street railways is exemplified in the policy of public control adopted in the construction and management of the Boston subways. The city of Boston, acting through the Rapid Transit Commission, has constructed the two subways now in operation, and is building a third tunnel. Before the first tunnel was completed it was leased to the Boston Elevated Railway Company for twenty years from the completion of the line at an annual rental amounting to four and seven-eighths per cent of the cost of construction. This rental will enable the city of Boston to meet the interest on the cost of the subway and to pay off the debt in thirty-seven years. The second —the East Boston tunnel—was opened at the close of 1904, and is leased to the Boston Elevated Railway Company until 1922 for an annual rental equaling four and one-half per cent of the cost. The public has control over the fares on all street railways lines, including the subways and elevated roads.

Public Regulation in New York.—In accordance with general practice in the United States, the street railway companies in New York must be incorporated under general law. The charters are subject to repeal and amendment at any time. The companies thus incorporated must secure the consent of the cities in which their lines are to be located, and also of the owners of one-half of the value of the abutting property (unless it should prove to be impossible to secure the consent of the property owners, in which case the court may appoint a commission to appraise the damages that may result to private property) before construction can be commenced. Local authorities have the right to make as a condition of the grant of a franchise the annual payment of an amount not exceeding three per cent of the gross earnings. The fare for a continuous ride is limited to five cents, and the legislature has definitely reserved the right to regulate the fare at any time.

The regulation of street railway transportation in New York City has from time to time been dealt with by the legislature. Since 1884 cities of 1,200,000 population in New York State have been authorized to require of a street railway company taking out a charter five per cent per annum of its gross receipts. Under the charter of Greater New York in 1897, that city is prohibited from granting a street railway franchise for a longer period than twenty-five years (with privilege of renewal for a second period of twenty-five years), and the city is required to invite bids for the franchise and to grant the franchise to the responsible company offering to give the city the largest share of the gross receipts from traffic. It was, however, found necessary for the state to supplement this provision of the charter by a special act allowing New York City to grant a franchise for fifty years to the company constructing and operating the subway recently completed. But it is not probable that it will be necessary to make exceptions in the case of such subways as may be constructed in the future.

The experience of New York City in dealing with the street railway companies on the principle of granting franchises for a limited period and selling them to the highest responsible bidder has been satisfactory, and the city is in a position to derive much more revenue from its street railway companies than it could secure under the system that formerly prevailed. Whether the plan of disposing of street railway franchises at auction will prove highly

successful is, however, doubtful, because of the difficulty of securing competitive bids for the privilege of constructing street railway lines in a city where one company controls the entire surface and elevated system of lines. Under these conditions, when the franchise is put up for auction, the city is practically obliged to deal with one corporation, and is forced to make as good terms as possible with a single company. If the public authorities are intelligent regarding the value of the franchise to be disposed of, and are zealous in protecting the public interests, it is possible for the city under the present plan, even without competition, to secure a good price for the franchise; but in this case, as in all questions of municipal government, success depends upon the intelligence and honesty of public officials.

The City of New York has secured an excellent subway under conditions relatively favorable to the public. As time goes on experience will show that the terms granted by the city to the Interborough Rapid Transit Company were unnecessarily liberal, but it is probable the terms were as good as could be obtained at the time they were decided upon. The act of 1891 for the construction of the subway stipulated that the work should be carried out with private capital, but nothing was accomplished under this act, and in 1894 the city decided upon municipal construction and private operation of the subway. After this plan had been favorably voted upon by the people of the City of New York, it was still uncertain whether private capital could be found to construct the subway with the use of public funds, and to assume the obligations imposed by law for the repayment of the money advanced by the city. Finally a contractor was found willing to assume this obligation on the condition of a fifty years' lease. The traffic of the subway has been larger than was anticipated, and the financial success of the enterprise is fully assured. Indeed, this first subway promises to be so profitable that capitalists are now willing to build parallel subways. New York will, doubtless, have numerous subways constructed during the next score of years, and it is not impossible that the city may be able ultimately to dispense with its north and south surface lines and thereby reserve the streets for vehicular traffic.

Illinois and Chicago.—The problem of street railway regulation has been under public consideration in Illinois and Chicago

almost continuously during the past ten years. The numerous franchises held by the two corporations controlling the nine hundred miles of street railways in that large city were limited to a period of twenty years, the end of which period in most instances fell between 1903 and 1907. Between 1897 and 1900 the street railway corporations made an unsuccessful attempt to secure the extension of their franchises for a period of fifty years. This aroused a vigorous public opposition, which in 1903 led to the passage of a state law authorizing the cities of Illinois to purchase and operate street railways. This law applies generally to all cities, but was passed with special reference to the City of Chicago.

Most of the early street railways in Chicago were constructed under franchises having a duration of twenty-five years. Under the law passed in 1865 the street railway companies then existing were granted an extension of their charters for ninety-nine years. This law was very unpopular and led to a great controversy, the result of which was a compromise in 1874 by which all street railway franchises were to be limited in the future to a period of twenty years. In 1883 all existing charters were extended to twenty years from date.

Recent events in Chicago are of such interest that they merit statement in some detail. In 1897 the street railway companies of Chicago, foreseeing that most of their charters would probably expire between 1903 and 1907, induced the legislature of the State of Illinois to pass the so-called Allen law, which extended all street railway charters fifty years and authorized the charging of a five cent fare during that period. This act of the state legislature aroused strong and general opposition on the part of the people of Chicago, and the City Councils, in 1898, refused to grant the franchises required by the street railway companies in order to avail themselves of the privileges they had secured by the Allen law. The universal protest against the Allen law led to its repeal by the state legislature in 1899. This was followed by a strong agitation in Chicago to bring about municipal ownership and operation of the street railways within the city. The result of this movement was the passage, in May, 1903, of the Mueller law, authorizing "cities to acquire, construct, own, operate and lease street railways and to provide the means therefor."

The City Councils decided to give the people of the City of

Chicago, by means of a referendum, a right to decide whether the city should avail itself of the powers granted by the Mueller law, and in 1904 the voters of the city authorized the city government "to proceed without delay to acquire the ownership of the street railways." The City Councils were slow in acting in accordance with the referendum, and consequently the matter came up for popular vote upon a second referendum in 1905, at which time the people decided against granting franchises to street railway companies permitting them to continue the operation of the street railways. These referendum votes practically decided that the City of Chicago should proceed with the acquisition of the street railway lines within the city's limits.

Before the city could accomplish the municipalization of the street railways, three problems had to be settled:

(1) The first of these was as to the actual date of the expiration of the charters held by the street railways in the city. As was stated above, the legislature in 1865 had granted a ninety-nine-year extension to street railway charters; but in 1874 a law had been passed limiting all street railway franchises to twenty-year periods, and in 1883 another law had been enacted extending charters to twenty years from date. The street railway companies claimed that the ninety-nine-year act was valid, and that none of their charters expired before 1958. This matter was passed upon by the state courts and finally decided by the United States Supreme Court on the 16th of March, 1906, which court held that "the ninety-nine-year act, while extending the corporate existence of the three companies to which it applied, did not extend their street privileges."

(2) Another important question that required settlement was the purchase price to be paid the street railway companies by the city, and the terms under which the city should acquire the ownership of the property. After extensive negotiations an agreement was reached at the close of 1906 that the street railway property should be valued at $50,000,000, the property of the Union Traction system being considered worth $29,000,000, and that of the City Railway system at $21,000,000. The power of the city to issue certificates of indebtedness for the purpose of purchasing the street railways in accordance with the authority granted by the Mueller law has been decided in the courts and in favor of the city, viz., the Mueller law has been upheld.

(3) The third large question was whether the city should take over the street railway lines at once and operate them, or whether it should leave them, temporarily at least, in the hands of the present operating companies, to be managed by them in accordance with the terms to be agreed upon between the companies and the city. The officials representing the City of Chicago have decided in favor of leaving the property in the ownership and under the management of the street railway companies, under the provisions of a city ordinance authorizing the city to take over the street railways whenever it may choose to do so at the agreed value of $50,000,000.

An ordinance to carry out this program is now before the City Councils of Chicago, and the people of the city, by referendum vote, are to decide at the spring election what the City Councils shall do. It is highly probable that the vote will instruct the City Councils to pass the ordinance now pending.

The provisions of this ordinance merit careful consideration by all students of the public regulation of street railways. The ordinance[1] provides for:

The immediate rehabilitation of the said street railway systems and for the right of the City of Chicago or its licensee to purchase the same, on the first day of February and on the first day of August of each and any year, upon giving six months' previous notice, in writing, and upon definite terms fixed in the respective ordinances.

The city and the companies respectively agree that the value of the present tangible and intangible property of the Union Traction system is $20,000,000, and of the City Railway system, $21,000,000.

The companies agree that they will proceed at once to rehabilitate and re-equip their entire street railway systems and put the same in first-class conditions, in full compliance with specifications for such work and under the supervision of a Board of Supervising Engineers created under the ordinances.

The city or any other company authorized by it is given the right to purchase the entire property of the two systems, or either of them, upon the payment of the agreed price of the present property of each company, respectively, and the cost of rehabilitation and extensions, including fair allowances for construction, profit and brokerage.

If the street railways are to be so acquired for operation by a private corporation, for its own profit, the purchase price is to be increased twenty per cent.

The companies are limited, during their operation, to an interest return of five per cent upon the agreed value of their property, plus the cost of

[1]This summary of the main provisions of the ordinances is quoted from the report submitted to the City Councils of Chicago, January 15, 1907, by the Committee on Local Transportation, Charles Werno, chairman.

rehabilitation and extensions. The fare for one continuous ride within the city is to be five cents.

The net profits from the operation of the street railways are to be divided between the city and the companies in the ratio of fifty-five per cent to the city and forty-five per cent to the companies.

The ordinances provide for a comprehensive system of transfers and through routes, by means of which passengers can ride over all connecting lines within the city limits.

The companies agree, upon demand of the city and at the city's option, to furnish funds to the amount of $5,000,000 for the construction of a central subway, to be built and owned by the city, the plans for which are to be approved by the Board of Supervising Engineers.

The British System of Street Railway Regulation.—The regulation of street railways in Great Britain is based upon the Tramways Act of 1870. Most of the tramways were constructed by private companies. Under the act of 1870 the (1) tenure of their franchises is limited to twenty-one years, (2) the local authorities have power to pass upon or veto the proposed tramway project, and (3) also have power to buy out the tramway company at the end of the twenty-one-year period by "paying the then value (exclusive of any allowance for past or future profits of the undertaking or any compensation for compulsory sale, or other consideration whatsoever) of the tramway."

Under the act of 1870 the municipalities of Great Britain have had the authority to construct, purchase and manage their tramway systems. Since 1891 the franchises of many street railway companies have reached their term limit, and numerous cities have had the option of renewing these franchises or purchasing the tramways in accordance with the provisions of the act of 1870. The tendency has been for the cities to buy out the tramways and either operate the railways as municipal enterprises or to lease them to private companies for operation under municipal supervision. Municipal operation as well as ownership seems to be the favored policy, and most of the largest cities of the United Kingdom now manage their tramways. Manchester, Liverpool, Glasgow, Birmingham and London (the "County of London") are among the large cities which own and operate their tramways.

In 1893 there were only twenty-eight street railway lines aggregating 170 miles, owned by municipalities in Great Britain. In 1901 there were 99 enterprises, aggregating 689 miles. During

this period of eight years there was no increase in the number of private companies, and the growth in mileage owned by private companies was from 501 to 616 miles. In 1904 there were 162 street railways in Great Britain owned by cities, with 1,148 miles of tramways. The number of private undertakings was 150, with a total line mileage of 692.

The tendency of the cities of Great Britain to municipalize street railway transportation may be illustrated by referring to the recent experience of London. In accordance with the provisions of the act of 1870, supplemented by the London County Tramways Act of 1896, the County of London has acquired nearly all of the surface tramways within the county limits. .

On account of the narrow streets and density of traffic the mileage of surface railways or tramways within Greater London is relatively small. In 1903 the route or line mileage within the County of London, which constitutes the inner portion of the area of Greater London, was 115½ miles. This does not include the numerous subways and tubes now in operation. Of the tramway line mileage, 99¼ miles, or all but 16¼, the London County Council has either purchased or announced its intention of purchasing. In 1903 most of the tramways within the county north of the Thames were being operated by a company to which the line had been leased by the London County Council. Since then the operation of this line has been taken over by the Council, and at the present time practically all of the surface tramways within the area of the County of London are operated by the County Council. Within the Metropolitan, or Greater London district, and outside of the County of London, there are numerous electric tramways operated by chartered companies; but even they are coming under the ownership and operation of public authority.

Rapid transit in London is supplied mainly by tubes or subways. At the present time the old Metropolitan system, which is part subway and part open line, comprises 35½ miles of route and 71 miles of single track. The six electric tubes now in operation have a route length of 30¾ miles. Thus the Metropolitan system and the tubes give London 66¼ miles of underground street railways. The companies operating these underground lines derive their charters from Parliament by private bills, and thus do not come directly under the control of the London County Council. They

are under the control of public authority and will, doubtless, in time, be subject to regulation by the municipal government of London as well as by the Royal Government.

The German System.—Although Germany is a confederation of several states, each of which has authority to determine the conditions under which street railway companies may be incorporated, the imperial code of 1900 establishes practical uniformity among the several states as regards their system of public control of urban transportation. The German system may be summarized by stating that it comprises (1) a detailed regulation of the service through the charter provisions required by the laws of the states and the imperial code, (2) the local governmental authorities have the power to grant or withhold franchises and also have the power to construct, purchase or operate the street railways, (3) both private and municipal systems of street railway management prevail in Germany. Some cities have private street railway companies, other cities own and operate the lines within their limits. Some of the cities owning lines lease them to private companies; but the usual practice is for the city to operate the lines in its possession. In 1902 eighteen of the one hundred and thirty-three German cities owned the street car systems within their limits. In this list are such large cities as Dresden, Munich, Mayence, Cologne, Frankfurt, and Halle.

In the metropolis of the country, Berlin, the agitation for the municipalization of street railway transportation has thus far been unsuccessful, and the franchise of the most important company operating surface lines in the city has been extended until 1949, the city reserving the right to purchase before the expiration of the franchise. The elevated road extending through and around the city is a part of the Prussian state railway system. A new and excellent underground and elevated road has been put into operation by the great firm of Siemens & Halske, which company pays the cities of Berlin and Charlottenburg a liberal percentage of its annual income. The annual percentage increases with the growth of the company's annual receipts.

As in Great Britain, so in Germany, the tendency is distinctly towards the municipalization of the street railway service. This tendency is in accordance with the development of state ownership and management of transportation agencies in Germany. In Great

Britain, however, there is no apparent demand for the nationalization of the steam railroads, and the tendency towards municipalization of street railways represents a departure from the theories which have in the past prevailed regarding the best relations of the government to the transportation service.

Comparison of Municipal and Private Ownership.—In the United States, street railways, with the exception of certain subways, are owned by private companies. In Europe, although the majority of the street railway enterprises are still owned by corporations, the tendency is towards the purchase and operation of the tramways by city governments. The success that has attended municipal ownership and operation has been such as to lead some persons to conclude that all cities, both European and American, might advantageously adopt the policy of municipalization of the street railway service.

In Great Britain the street railway service during the decade following 1890 was generally unsatisfactory. This was in part due to the fact that the Tramways Act of 1870, by which franchises were limited to periods of twenty-one years, foreshadowed a policy of municipalization of the private lines. When the time came for changing from horse to electric traction, the private companies generally neglected the service, with results that are well stated in the following quotation taken from the minutes of the Plymouth, England, Town Council:

> The main objects of the corporation in purchasing the tramways were to get rid of the company management, which had failed to give the public an effective tramway service and which had exhibited so considerable disregard of public inconvenience and remonstrance, and in the second place the direction and control of the policy of the tramway extension in the hands of the council as representing the general body of ratepayers, for the general benefit of the borough, instead of leaving the tramway system to be developed and extended for the purpose of securing profits to shareholders without regard to local necessities.

The main advantages of municipal ownership and operation are:

(1) The possibility of low fares and of adjusting fares with reference to the most advantageous distribution of population.

(2) The ability of the city to regulate the wages and hours of labor of the street railway employees.

(3) To secure to the city the increasing profits resulting from the growth of population and traffic.

Assuming that a municipal government is honest and is able to manage the street railway service efficiently, the advantages of municipalization are manifest. There are, however, certain dangers connected with municipal ownership and operation even under the favorable conditions prevailing in the cities of Western Europe:

1. There is the liability that municipal debts may be greatly increased and that the cities may be so desirous of reducing street railway fares as to neglect to provide for the payment of the railway debt within the proper period.

2. Writers opposed to municipalization claim that the city is more liable than private corporations are to allow the track and equipment to depreciate, and to neglect the construction of new tracks extending the lines into unoccupied suburban regions.

3. It is also claimed that the municipalization of street railways will restrict the construction of interurban electric lines, for the reason that each city will be disposed to confine its lines to the region within its own limits, and that, having done so, private companies will not find it profitable to construct lines connecting the cities.

European cities have so recently adopted the policy of municipalization of street railways that it is too early to determine what their policy will be as to the payment of the debts incurred in buying out the corporations or in constructing new lines, or what their policy will be regarding the maintenance of their track and equipment, and whether they will extend their systems with adequate rapidity. In general, it may be said that the British and Continental cities have thus far dealt satisfactorily with these questions. Whether municipalization will hinder the construction of interurban lines remains to be seen, but it seems probable that this may prove to be a somewhat important consequence of municipalization.

The success that is attending the purchase and operation of street railways by foreign cities argues but little for such a policy for American cities. The condition of municipal government in the United States is such as to discourage the ownership and operation of street railways by public authorities at the present time. For the United States the policy for some time to come should be one

of public regulation rather than one of public ownership and operation.

The Street Railway "Problem" in the United States.—The adjustment of the relations of the public authority to the street railway transportation service is a problem comprising the regulation of the provisions of the charter and franchise granted to the company, the regulation of the capitalization and financial methods of the corporation performing the service, the public supervision of the service, the control of the fares, and the adoption and enforcement of wise methods of taxation. This is indeed a complicated problem, the solution of which has been as yet but partly accomplished. The regulation of the franchises, services and charges of street railways needs to be more detailed than is required in the case of steam railroads, because the street railway service is more completely monopolistic than is the business of railroad transportation.

That these facts necessitate a detailed regulation of the street railway service is being increasingly recognized in the United States is shown by the general tendencies discernible in the legislation of the states:

1. There is a tendency to limit the period for which the franchises are granted, and to increase the obligations to be met by the companies in order for them to maintain the validity of the franchises they receive from the public. The states are giving the cities power to exact more than they formerly could of the street railway companies, and the cities are showing an increasing disposition to avail themselves of the powers they have received from the states.

2. The state and municipal control over fares is being more frequently exercised. In several states and in numerous cities efforts are being made to establish an effective public regulation of street railway charges. These efforts indicate more clearly than any other movement could the tendency towards a greater exercise of public authority.

3. There is a growing disposition to tax the franchises and earnings of street railway companies as well as their physical property. The fact is coming to be recognized that taxation levied only on the physical property of street railway companies reaches but a small part of the value possessed by the companies, and that an adequate system of taxation necessitates the taxation either of the franchises or of the earnings of the companies. Moreover, the

legal limitations ordinarily placed upon property taxation—that all kinds of property shall be taxed equally—presents another reason for adopting some other basis than physical property for the assessment of street railway companies. In some states the value of the street railway franchise is reached for purposes of taxation by treating the franchises as property and thus avoiding the restrictions of the laws regarding taxation of all physical property. The most convenient and, on the whole, the most practicable method of taxing street railway companies is that of requiring them to turn over to the city annually a liberal percentage of their gross receipts. While the gross receipts tax is not theoretically the most ideal one, the objections to it are not important in the case of the street railway business, and its advantages outweigh the theoretical objections.

The present thought regarding the proper solution of the street railway problem in the United States may be approximately summarized as follows:

(1) A five-cent fare, with six tickets for a quarter, and a general system of transfers; (2) that the service shall be performed by chartered companies, but that each company shall pay to the city a percentage of its gross receipts and be required to pave and sprinkle the parts of the streets occupied by its tracks; (3) that capitalization of the company shall be regulated by public authority and over-capitalization prohibited; (4) that franchises shall be limited to twenty or thirty years, and that the city should retain the right to purchase at the expiration of this period the property of the company at a fair valuation; (5) that a commission or some other public authority shall pass upon the public necessity for a proposed street railway, and regulate the service in the public interest; (6) that the annual reports made to the state and city shall give full information regarding both the service and finances of the company.

The general problem of the public regulation of street railways has been simplified both by the consolidations that have brought the street railways systems in each of most of our large cities under a single control, and by the recognition on the part of the public of the fact that the street railway service is a monopoly and must be regulated as such. The fact that the street railway service is a monopoly not only necessitates public regulation, but makes possible more efficient public control. The truth of this is

well illustrated in Boston, where all the lines, elevated, surface and subway, are operated by a single company. Over-capitalization has been prevented, the fares are being regulated, and different parts of the street railway systems are co-ordinated so as to secure a good service in a city where the difficulties of providing street railway transportation were exceptional. What Massachusetts and Boston have done other states and cities can, and doubtless will do. Indeed, hopeful progress is being made in several states, and the successful solution of the "street railway problem" in the United States by public regulation rather than by municipalization seems more than probable.

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by the commission, the other six volumes being devoted to minutes of evidence and appendices. These seven volumes constitute a rich mine of information regarding the tramway systems of England, the United States and the Continent of Europe, and deal fully both with the technical questions and with the various systems of public control of street railway transportation.)

RATE CONTROL UNDER THE AMENDED INTERSTATE COMMERCE ACT

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Under the Interstate Commerce Act, as originally passed in 1887, the Commission assumed that it possessed the power to prescribe rates for railroad companies. In 1896 and 1897, however, the Supreme Court rendered decisions[1] denying this power and announcing that while the commission might declare existing rates unreasonable, it was not empowered by the act to substitute other rates to be observed in future. Thus shorn of its authority, the commission appealed to Congress for a restoration of it, and, as the years passed by, repeatedly renewed its petition. For several years, however, Congress steadfastly turned a deaf ear to its prayers, until public opinion, awakened largely by the President, came to the aid of the commission. By 1904 there had been manifested an impressive public sentiment in favor of railroad reform, and under this stress the Esch-Townsend bill achieved a remarkable success in the house. But the senate compassed its downfall. Nevertheless, during the succeeding months, popular sentiment continued to grow, and in consequence, when the members of Congress next assembled, in December of 1905, it was generally agreed among them that railroad legislation of some sort would have to be enacted. Moreover, it was almost as generally acknowledged that one feature of the legislation would have to be a grant of the rate-making power to the Interstate Commerce Commission.

But the recognition that this step was practically inevitable did not altogether do away with consideration of its general policy. Especially, at first, was much oratory devoted to its constitutional features. But all such discussion speedily dwindled in importance, and it was soon recognized that the significant feature of the Congressional task was the formulation of the various specific provisions of the law. Granted that the commission should have the

[1] 162 U. S. 184, and 167 U. S. 479.

rate-making power, the real struggle was involved in the determination of the character and limitations of that authority. In this connection several important questions arose, and the earnest debates upon them revealed a wide difference of opinion between the extreme conservatives and the extreme radicals. Untimately, however, a compromise was reached on each point, and at the eleventh hour the bill was passed and became a law.

The more important of the questions which presented themselves to Congress pertained to the following matters: (1) The rates which should be made subject to the commission; (2) the circumstances under which the commission should be authorized to prescribe rates; (3) the character of the rates thus established; (4) the review of these rates by the courts; (5) the expedients which should be adopted to mitigate the evils resulting from judicial review; and (6) the penalties to be imposed for the violation of the commission's orders establishing rates. It is the purpose of this article to discuss the manner in which these subjects are treated in the Interstate Commerce Act as now amended.

1. *The Rates Subject to the Commission.*—To begin with, the rate-making power of the commission applies to all common carriers by rail, or by both rail and water, when both are under common control or management, or arrangement for a continuous carriage. It also applies to express companies, sleeping car companies, and all corporations or persons operating pipe lines,[2] the insertion of these provisions being the outcome of extended discussion in Congress. The power extends to all rates not purely intrastate, whether charged for the transportation of persons or property, and it is clearly the design of the act that the charges for all services rendered in connection with such transportation shall be under the control of the commission. Many elements to be regarded as included in the term "transportation" are enumerated in the first section, and it is interesting to note that they embrace, among other things, "all services in connection with the receipt, delivery, elevation, and transfer in transit, ventilation, refrigeration or icing, storage and handling of property transported." The commission is also granted a limited authority over joint rates. When two or more connecting carriers, one of whom may be a carrier by water, have failed to establish through routes and joint rates, and no

[2]Other than for the transportation of water and natural or artificial gas.

reasonable or satisfactory through routes exist, the commission may, on complaint, establish such through routes and prescribe the rates applicable thereto. Finally, the power of the commission covers the allowances made by carriers to shippers who directly or indirectly render any service in connection with the transportation of their goods, this provision being designed to remedy a familiar form of discrimination. Thus it will be seen that a very comprehensive authority is accorded the commission, its one weakness, probably, being a lack of power over transportation exclusively by water.

2. *When Rates May be Made.*—A second matter of importance has reference to the circumstances under which the commission may establish rates. In determining this question three alternatives were open to Congress. The commission might be required to wait until complaints of unreasonable rates were brought to it before it could move in the matter of rate-making. Such a provision would give it something of the character of a court, which cannot seek cases to decide, but must wait until the parties voluntarily institute proceedings. Or, secondly, the commission might be empowered to take the initiative in the matter, establishing rates on its own motion, though, of course, after proper investigation and hearing. Or, thirdly, it might be given, practically if not nominally, the status of chief traffic manager for the various railroad companies. While, in such a case, the entire work of rate-making would not be placed in its hands, the final authority and responsibility would be lodged there. Of these three forms of rate control, Congress elected to adopt the mildest. The commission is empowered to act only upon complaint; it cannot take the initiative. Such a limited power, of course, gives rise to a serious difficulty. The establishment of certain rates, following a complaint, may render highly desirable the readjustment of other related rates; yet the commission is without authority to touch them, until and unless a complaint is filed. There is, however, another provision of the act which opens an avenue of escape from this difficulty. It is provided that "no complaint shall at any time be dismissed because of the absence of direct damage to the complainant." Thus it is possible for the commission, if it desires to investigate rates, to set up dummies to bring the formal complaints demanded by the act. This is, of course, a nuisance, and may involve some small sacrifice of official dignity,

but aside from these embarrassments the commission is as much at liberty to investigate rates as if the right of initiative had been granted to it.

3. *The Character of the Rates.*—Two things may be said as to the character of the rates to be established by the commission. First, they are to be merely the *maximum*. No power is given to fix an absolute rate, or to prescribe a minimum charge. Of course a maximum rate is to a limited extent a minimum rate as well, inasmuch as many reductions from it can be assailed as unjustly discriminatory, and so can be prevented; but obviously this is not true of all reductions. Hence it is thought by many that the failure of the act to provide for minimum rates is unfortunate, especially because it may impair the enforcement of differentials by the commission. It must be confessed, however, that the establishment of a minimum rate appears to be beyond the powers of Congress. Though this question has never been judicially determined, and so must be regarded as somewhat uncertain, little doubt remains after a consideration of the following facts. The Supreme Court has come just short of deciding that the power of the states is limited to the fixing of maximum rates. The point has never been directly at issue before the court, and so an absolutely final *dictum* has not been given; but repeatedly, from the earliest cases to the present time, the court, in asserting the states' power over rates, has defined it as an authority to fix a maximum. The court has never positively stated that a minimum is beyond the states' power, because it has never had occasion to decide the question, but its constant employment of "maximum" or other words of like import in defining that power is all but conclusive on the point. This being true, the thought naturally occurs that if the people of the several states do not possess the right to fix a minimum rate, they could hardly have conferred that right upon Congress. However, in spite of this consideration, it is regarded as unfortunate that Congress did not in the act provide for a minimum rate. The point would then come up for judicial interpretation and would be settled. Even were the provision declared to be beyond the competence of Congress, its rejection would not impair the validity of the balance of the act; and were it sustained it would doubtless strengthen the hands of the commission.

A second provision as to the character of the commission's

rates is that they shall be just and reasonable, but the discussion of this requirement will be undertaken under our next head.

4. *Judicial Review.*—Of all the questions which presented themselves to Congress, none matched in importance that which pertained to the review by the courts of rates prescribed by the commission. It was generally recognized that upon the answer to this question, more than upon anything else, depended the effectiveness of the provision for rate regulation. For the purpose of judicial review is to determine whether, in prescribing rates, the commission has exceeded its powers, and to restrain its action if such has been the case. The inquiry of the courts may take different directions. It may be designed to discover whether the charges which have been regulated are among those subject to the commission, or whether that board has complied with the requirements of the act as to its procedure in the investigation and establishment of rates; but by all means the most important specific aim of judicial review is to determine whether the rates prescribed by the commission are unduly low, and if they are, to restrain their enforcement. Were the courts to possess no right of review there would be no limit to the commission's power of rate reduction, except its own discretion. It might reduce rates to zero. Judicial review, then, is a restraint upon the commission's power of rate control, and the broader that review, the more circumscribed is the authority of the commission. This is why the question was acknowledged to be the very heart of the whole problem. Though the rate-making power might be granted in terms, it might be practically nullified by conferring upon the courts a very broad right of review. In any case, the strength of the commission would largely depend upon the character of the provision for judicial review.

Doubtless the simplest plan would have been to say nothing at all upon the subject in the act, and this suggestion was not without its advocates. But it was vigorously opposed by the representatives of the railroad interests, together with other conservatives, who expressed the fear that if the act were silent on the matter it might be declared unconstitutional, as denying the right of review to the courts. Most persons, however, were not affected by this apprehension. It was evident to them that the courts needed no authorization from Congress to review the commission's rates; that the constitution itself confers that right. The constitution not only

bestows upon Congress the power to regulate commerce, but it also provides, as a limitation upon the federal government, that no person shall be deprived of property without due process of law and without just compensation. Beyond a doubt, then, the courts would not permit rates made by Congressional authority, under the commerce clause, to be enforced, if they contravened that other and more recently adopted provision regarding deprivation of property. Congress cannot, under the guise of legislating in pursuance of one clause, violate another, especially a more recently adopted provision. As the guardians of the constitution, the courts would be abundantly competent to pass upon the constitutionality of rates made by the commission, and so, without any provision in the act, the commission's rates would be subject to judicial review.

But though this seemed clear, the reform element in Congress was not in a position to insist upon the silence of the act, for such insistence might cast suspicion upon their good faith. If they believed that judicial review ought to exist, what objection could they have to saying so in the act? Therefore it was conceded that some provision on the subject should be enacted.

That being settled, the next step was to formulate the provision, and this involved the determination of the power which should be conceded to the courts, and, conversely, to the commission. Obviously here, again, two courses were open. The act might simply state that the courts should be competent to pass upon the constitutionality of the rates; or, it might give them a broader right of review. To put it otherwise, the act might simply aim to protect the railroads in the enjoyment of their constitutional rights, or it might confer on them additional rights, and charge the courts with the duty of protecting them. In the former case the commission would possess just the same power over interstate rates that state commissions have over local tariffs; in the latter, it would have a more limited authority.

The natural course would have been to adopt the former alternative, confining the courts to an adjudication of the constitutional question; but the conservative element, inspired by its late victory, felt emboldened to stand out for a broader right of review, with the purpose of weakening the commission's efficiency. The result was a struggle which lasted until late in June, when it was terminated by a compromise. The curious feature of this compromise

is that no one can be absolutely sure of its meaning. The wording of the act as it now stands is to some extent indefinite and ambiguous, and not until a case has been passed upon by the Supreme Court will its meaning be surely known. At this time all that can be done is to call attention to the various clauses of the act bearing upon the question, and to indicate some of the considerations to which weight will doubtless be attached by the court.

The clause which confers the power of review is as follows:

> The venue of suits brought in any of the circuit courts of the United States against the commission to enjoin, set aside, annul, or suspend any order or requirement of the commission shall be in the district where the carrier against whom such order or requirement may have been made has its principal operating office, and may be brought at any time after such order is promulgated. And if the order or requirement has been made against two or more carriers then in the district where any one of said carriers has its principal operating office, and if the carrier has its principal operating office in the District of Columbia then the venue shall be in the district where said carrier has its principal office; and jurisdiction to hear and determine such suits is hereby vested in such courts.

It will be seen that this clause is wholly indefinite. It vests in the circuit courts the power to hear and determine suits to set aside, annul, or suspend any order of the commission, but it says nothing as to the ground on which the courts can set aside the commission's rates. May they annul them on the ground of unconstitutionality alone, or on some other ground? To this question no direct answer is given, and therefore the various provisions of the act must be scrutinized to see if they reveal the Congressional intent. Power to judge of the constitutionality of the rates is surely in the hands of the courts, but if they possess any other or broader power, it must be because the act confers it upon them.

Looking into this question, we find several clauses in the amended act which seem to bear upon it. One, found in the first section, simply repeats with a slight modification a provision in the original act. It is the general, sweeping declaration that all rates and charges "shall be just and reasonable; and every unjust and unreasonable charge . . . is prohibited and declared to be unlawful."

Another clause of importance in this connection is found in section 15, where the rate-making power is conferred on the commission. "The commission is authorized and empowered, and it

shall be its duty . . . to determine and prescribe what will be the just and reasonable rate or rates, charge or charges to be thereafter observed." And later in the same section the commission is authorized to "determine what is a reasonable charge" to be paid by a carrier to a shipper who renders some service in connection with the transportation of his goods.

It is evident from these citations that Congress intends all rates to be reasonable. Even the commission is placed under the duty of prescribing "what will be the just and reasonable rate or rates." This being true, the question of the interpretation which the courts will give to this requirement becomes a matter of great moment. How will they undertake to determine whether rates are reasonable or not? By what standards will they judge them?

The word "reasonable" is the despair of the layman, and surely can be scarcely less distressing to the members of the legal profession. The multitude of considerations—ethical, economic, social and political, as well as strictly legal—which must be taken into account in discovering what is reasonable in any connection, together with scarcity of guiding principles general enough to be true, yet concrete enough to be useful, conspire to make the task one of greatest difficulty. The reasonableness of railroad rates furnishes no exception to this rule. Yet amid all the confusion of infinite detail one fact is clear. There are but two avenues along which the courts have ever attempted to proceed in judging of the reasonableness of rates. There are, in other words, but two judicial tests of reasonableness. One may be termed the test of "constitutionality," and the other the test of "remuneration." The principles and methods according to which these tests should be applied are at present involved in much uncertainty, but the tests themselves may nevertheless be clearly distinguished.

The constitutional test has been repeatedly applied in cases involving rates made by state legislatures and commissions, and so its general nature is well understood. Its aim is to discover whether the rates are of such a character as to violate the Federal Constitution, for if they are, they must be held to be unreasonable. The precise question which arises relates to the Fourteenth Amendment, which provides that no person shall be deprived of property without due process of law. The term "due process of law," as interpreted by the courts, embraces more than the mere formal proceedings

characteristic of a tribunal of justice. In it is included the further idea of "just compensation." Due process of law is not observed in the appropriation of private property by the state unless the owner is adequately recompensed, and this, indeed, is the most significant element in "due process." In judging, then, of the constitutionality of rates, the courts must determine whether the state, without providing for compensation, has imposed rates which are so low as to deprive the railroads of property.

But how is it that rates may "deprive of property?" Clearly they cannot operate in such a manner as to appropriate any of the tangible property of a railroad company. But the courts hold that under the Fourteenth Amendment a person is entitled to protection against the seizure, without compensation, not only of his property, but of its fruits as well, which in the eyes of the law *are* property. Hence a railroad company, though subject to public control of its rates, is constitutionally entitled to a reasonable income from its business, and the imposition of rates which are so low as to prevent it from earning such an income amounts to a deprivation of its property.

At this point the judicial doctrine is confronted by another difficulty. What is a reasonable income from a railroad's business? It will not promote our present purpose to inquire into this question in detail. It will be sufficient to observe that the courts have decided that no definite rate of net income can be stated; that it must vary with the circumstances of each case; that in an extreme case it might even be equal to zero; and that, whatever the rate is, it must be reckoned on the actual value of the property, rather than on its original value, on the company's capitalization, or on any other base. Beyond this we shall not go,[3] for it is desired simply to make clear the nature of the "constitutional test." Whether rates are reasonable depends on whether they are high enough to permit the railroad company to earn a reasonable income from its business. The rates are judged according to their effect upon the net returns of the business.

Now the "test of remuneration" must be sharply distinguished from this. It is not concerned with the company's income, but

[3]For a full discussion of the principles and methods of the courts in applying this test of constitutionality, see the author's "Railroad Rate Control In its Legal Aspects," Publications of the American Economic Association, May, 1906.

rather with the separate services rendered by the company to its patrons. Its aim is to secure for the railroad a reasonable remuneration for each service rendered. Of course the difficulty arises of determining what a "reasonable" remuneration is, and into that question we cannot go, save to remark that it is to be determined, among other things, by the nature and cost of the service, and by its importance and value to the shipper, the customary rate, if there is one, being strong evidence of what is reasonable. The validity of the rates, then, under this test, is a matter of their relation to the services rendered by the company, which is entitled to a just compensation for each service. Now, of course, it can be imagined that according to this standard rates might be recognized as reasonable, though so low as not to yield a reasonable income, and that consequently this might not be so favorable to the railroad as the constitutional test. But while such a case is conceivable, it is highly improbable. It is much more likely that the remuneration test would prove more favorable; that under it rates held to be but barely reasonable would yield a large income. In the words of Mr. Justice Brewer,[4] if a carrier "has a thousand transactions a day and his charges in each are but a reasonable compensation for the benefit received by the party dealing with him, such charges do not become unreasonable because by reason of the multitude [of his transactions] the aggregate of his profits is large."

At this point an inquiry is natural. How do the courts use these two tests of reasonableness? When do they apply one and when the other? As already intimated, they employ the constitutional test in cases where rates are involved which have been made by public authority. They employ the other in cases where no government interference has occurred, but where there is simply a dispute between the road and an individual shipper. By the common law a common carrier is entitled to a reasonable compensation for each service, and if sued by a shipper for overcharge, this is the point considered by the courts in determining whether there has been an excessive exaction. One test, therefore, is used in cases of government-made rates; the other in private disputes as to the fairness of charges, in the absence of governmental regulation.

Still another distinction in the use of these two tests was suggested by Mr. Justice Brewer some five years ago. In his

[4] In Cotting *v.* Kansas City Stock Yards Co., 183 U. S. 79, 95.

opinion, in Cotting *v.* Kansas City Stock Yards Company,[5] he called attention to the fact that there are two classes of industries subject to public control of their rates—those which are public, and those which, though private in nature, have become so "affected with a public interest" as to be fit subjects for such regulation. He then questioned whether the legislature should be allowed to go so far in controlling charges in private business as in public, and expressed the conviction that it should not; that while a public business is entitled, in spite of legislative enactments, to no more than rates high enough to yield a reasonable income, a private business should be allowed to collect a reasonable charge for each service, though the resultant earnings might be great. In short, he advocated the application of the constitutional test to public business, and of the remuneration test to private business.[6]

We are now prepared to note the consequences that would flow from the adoption by the courts of either of these tests in judging of the reasonableness of rates made by the Interstate Commerce Commission. Were the constitutional test to be applied, the commission would have just the same power over rates that any state commission may have, and no more; but were the remuneration test to be employed, its authority would be more narrowly limited. It could go no farther than the common law itself. The railroads would be entitled to rates just as high as they could lawfully demand, even in the absence of Congressional regulation. In other words, the commission would be prevented from reducing their rates below the maximum amount which they were legally entitled to receive before the commission was created. The action of Congress in bestowing the rate-making power on the commission would be in large part futile, for it would not result even in the possibility of lowering the legal maximum for rates.

Yet this is exactly the situation which some of the conservatives in Congress desired to bring about, and for which they labored most arduously. It was their endeavor to secure the insertion in the bill of words which would require the courts to apply the remuneration test. For example, a provision that the rates made by the com-

[5] 183 U. S. 79.

[6] It must be stated that these remarks of Justice Brewer's were *obiter dicta*, and therefore stand only as the expression of his personal opinion, not as settled law. Nevertheless they are entitled to great weight because of the recognized learning and ability of their distinguished author.

mission should be "fairly remunerative" was placed in the bill, and remained there until the final compromise. Had they not been eliminated, the ambition of the conservatives would probably have been realized. For they might reasonably have been interpreted by the courts as requiring the test of remuneration.

But it is our special purpose to consider the effect of the act as finally passed. Containing, as it does, the simple requirement that rates must be reasonable, which method of determining reasonableness will the Supreme Court adopt? Of course it is evident that the court alone can furnish a final answer to this question. It is not bound by precedent or other authority, and can use its own discretion. There are certain considerations, however, which point toward its adoption of the constitutional test, and these may be briefly noticed.

In the first place, it must be recognized that rate-making is a legislative function, in the exercise of which the commission is simply acting for Congress and doing its will. Now there is no question that Congress may regulate rates, subject only to constitutional restraints. And it would be hardly proper to assume that Congress meant to limit itself or the commission to a more narrow authority unless that intention clearly appeared. Having granted the commission the rate-making power, it should be presumed that Congress granted it the full power, subject only to such restraints as the constitution or the act itself imposes. And therefore, unless the act in definite terms more narrowly confines its activity, the commission should be allowed to go to the constitutional limit. But the act contains no such definite terms. Therefore the standard of reasonableness should be the constitutional test, and not that of remuneration.

But more definite reasons for the same belief are to be found in the decisions of the court in cases involving rates made by state authority. In reading these cases, one cannot fail to notice that the court repeatedly speaks of its task as involving a determination of the "reasonableness" of the rates. Such quotations as the following will serve to illustrate the point. "It was therefore within the competency of the Circuit Court to enter upon an inquiry as to the reasonableness and justice of rates prescribed by the railroad commission."[7] "The legislature has power to fix rates, and the limit of

[7] 154 U. S. 399.

judicial interference is protection against unreasonable rates."[8] "The more difficult question is that connected with the reasonableness of the rates."[9] But while the court has thus asserted its right and duty to guard the railroads against the enforcement by the state of "unjust" and "unreasonable" rates, it is noteworthy that it consistently employs the constitutional test. Would not the same practice naturally be followed in testing the "reasonableness" of the commission's rates?

It is also a significant fact that two clauses of the act requiring "reasonableness" are substantially the same as those present in various state commission laws which have come under the official scrutiny of the court. Thus a general clause commanding that all rates be reasonable was present in the Iowa act,[10] involved in Chicago and Northwestern Ry. Co. *v.* Dey;[11] in the South Dakota act,[12] involved in Chicago, Milwaukee and St. Paul Ry. Co. *v.* Tomkins,[13] and in the Minnesota act,[14] involved in Minneapolis and St. Louis Rd. Co. *v.* Minnesota.[15] Moreover, the additional specification that the commission should prescribe reasonable rates appeared in all of the acts just mentioned, and also in the Texas act,[16] involved in Reagan *v.* Farmers' Loan and Trust Co.[17] Yet in all of these cases the reasonableness of the rates was determined according to the constitutional standard. In the light of this practice, is it likely that the Supreme Court will feel justified in interpreting similar clauses in the Interstate Commerce Act as justifying any other test of the commission's rates?

One or two other considerations point in the same direction. Section 16 of the act provides that "if any carrier fails or neglects to obey any order of the commission, other than for the payment of money," any party injured thereby or the commission itself may institute legal proceedings. And "if, upon such hearing as the court may determine to be necessary, it appears that the order was regu-

[8]143 U. S., 344.

[9]186 U. S. 264; and for other examples see 169 U. S. 546; 176 U. S. 174; and 154 U. S. 397.

[10]Laws of 1888, Chap. 28.

[11]35 Fed. Rep. 866.

[12]Laws of 1897, Chap. 110.

[13]176 U. S. 167.

[14]General Statutes for 1894, Sec. 380.

[15]186 U. S. 257.

[16]Laws of 1891, p. 55.

[17]154 U. S. 362.

larly made and duly served, and that the carrier is in disobedience of the same, the court shall enforce obedience to such order by a writ of injunction or other proper process." The significance of this provision seems to be clear. When an order of the commission prescribing rates is disobeyed the commission may petition the Circuit Court to secure its enforcement. The court is allowed but a limited field for its inquiry. Its duty is simply to find out whether the order has been "regularly made" and "duly served." Having determined those questions in the affirmative, it is subject to the imperative duty of enforcing the order. But two observations should be made in this connection. It may be suggested that the courts might interpret the words "regularly made" as justifying an inquiry at large into the reasonableness of the rates. This, however, is most improbable, as it would surely be doing gross violence to the language. It might also be asked whether this provision would not destroy all power in the courts to consider the amount of the rates. Surely not. For the right to determine whether they are too low to be constitutional exists independent of statutory enactment. The courts always enjoy the right of testing the reasonableness of rates according to the constitutional standard; but this clause of section 16 seems to forbid the employment of any other test.

It is also not without significance that in section 15 the commission is authorized to "establish through routes and joint rates," there being no requirement that the rates be reasonable. This certainly indicates that joint rates are subject only to the constitutional test. But if joint rates, why not other charges as well?

We reach, therefore, the conclusion that when a case has arisen under the act and has been finally decided, the advocates of a broad review—of the remuneration test—will in all probability find themselves defeated, and that the commission will be at liberty to reduce rates as far as the constitution will permit.[18] That this outcome is heartily to be desired cannot be doubted. Experience has shown that the state commissions have suffered greatly from judicial review, though that review has rested exclusively upon a constitutional

[18]Whether this will be true so far as sleeping car companies are concerned is an interesting question. The tendency of American courts has been to deny that the sleeping car business is public in character. If this view is taken by the Supreme Court, the *dicta* of Justice Brewer in Cotting *v.* Kansas City Stock Yards Company, mentioned above, will become important. For if they are adopted by the court, sleeping car companies will be entitled to rates judged by the test of remuneration.

basis,[19] and the Interstate Commission will doubtless encounter the same obstacles. The difficulties will be great enough under a "constitutional review." They would be insurmountable under a "remuneration review." The "power" of the commission would be little more than nominal.

5. *Provisions to Expedite Judicial Review.*—It was generally acknowledged in Congress that, while judicial review is inevitable and in some ways desirable, it nevertheless presents some disadvantageous features. Among these may be mentioned the delays necessitated by carrying a case through the courts. If rates are suspended pending a final judicial judgment upon their reasonableness, their enforcement may be postponed a matter, not of months, but of years And that this impairs, and in most cases annihilates, their efficacy is evident. But it seemed to Congress that this incident of judicial review might be met, at least in part, by legislation. Accordingly, the task was undertaken of devising methods to avoid the difficulty, or to mitigate its effects.

The only expedient which finally found a place in the act was designed to hasten the judicial proceedings instituted to annul the commission's rates, or to enforce any order of the commission or any provision of the act. For that purpose the provisions of the Expediting Act of 1903 were, with some modification, made applicable to all such suits. It is now the duty of the attorney general, when any such action is begun, to file with the clerk of the court a certificate declaring "that, in his opinion, the case is of general public importance." "Thereupon such cases shall be given precedence over others, and in every way expedited, and be assigned for hearing at the earliest practical day," with the proviso, however, that when the action is to restrain the enforcement of an order of the commission, that body shall have at least five days' notice prior to the hearing. An appeal is allowed, even, it seems, from an interlocutory decree, but must be taken within thirty days, and only to the Supreme Court, in which it has priority over all causes, except causes of like character and criminal causes. These provisions will no doubt prove useful, though even with their aid the complete trial of a case will doubtless consume many months.

Two other expedients were proposed, but neither adopted. One contemplated the filing of a bond by the railroad, pending judicial

[19] A point elaborated in the author's "Railroad Rate Control," *supra cit.*

review, the purpose of the bond being to assure repayment to each shipper of the overcharge should the rates finally be sustained. The obvious weakness of this plan was that the shipper is not always the party injured by the extortion. The second—a more thoroughgoing plan—proposed that the rates should be made effective pending judicial investigation; that, in other words, the courts should be forbidden to delay their enforcement by the issue of temporary injunctions; that no restraining order should be issued until they should be found to be unreasonable. This proposal seemed eminently reasonable, in view of the accepted canon of statutory construction, that if the constitutionality of a statute is in doubt, the statute must be sustained. Only when its unconstitutionality is proved beyond a reasonable doubt should it be set aside. Now it is recognized by the courts that rates made either by legislatures or commissions are acts of legislation. They should therefore not be annulled until their unconstitutionality is clearly established, which cannot occur until the conclusion of judicial proceedings.

But in spite of all that could be said in its favor, the proposal was vigorously and bitterly opposed. The merits of the question, however, were little considered, for the discussion speedily took the form of a so-called constitutional debate. The right of Congress to limit the judicial power was called in question. It was argued that while Congress could create or abolish the federal courts, other than the Supreme Court, it could not prevent them while existing, from exercising all judicial functions, both legal and equitable, which existed when the constitution was adopted, and which included the power to issue injunctions. On the other hand, it was contended that Congress in creating any particular courts could confer upon them whatever powers it deemed wise. Into the details of these arguments we need not go. The opposition won, and the proposal was defeated. This is very much to be regretted. Few suggestions for rendering more effective the public regulation of rates have been so full of interest as this. While there is serious doubt as to its constitutionality, there can be no doubt that, if held to be valid, it would be of signal service in strengthening public control of rates, and in mitigating some of the serious evil results of judicial review. For this reason the defeat of the plan is deplorable. Had Congress adopted it and embodied it in the act, its constitutionality, which is now in doubt, could have been speedily

determined. Were the decision to go against it, no harm could be done. The validity of the balance of the act would not be affected. But were the decision to be in its favor, there would result a great gain for the cause of railroad reform.

It may be added that the doubt of its constitutionality is due not so much to the consideration suggested above as to something else. The contention that Congress is without power to limit the authority of the lower federal courts is not generally accepted as sound, and probably would not be upheld by the Supreme Court. But there is another ground on which the railroads could base their claim to the temporary injunction. There is no doubt that they are entitled, under the constitution, to a reasonable income from their business. And there is no doubt that if compelled for a year or so to operate rates too low to yield that income, they would be in a sorry plight. When the courts had determined that the rates were unreasonably low, their only remedy would be to sue each shipper for the difference between the charge paid and the reasonable charge, and this would result in a multitude of trivial and unprofitable suits. All this has been repeatedly recognized by the courts, which declare that a railroad suffers irreparable injury if it must operate unreasonable rates pending judicial review. Therefore the courts have held that in order to protect the company in its constitutional rights, injunctions must be issued at the outset to stay the enforcement of the rates. This right to equitable relief is now firmly established. Thus we find the Supreme Court approving a decree of injunction issued by a circuit court to restrain the enforcement of rates made by a state commission, although the state law declared that the rates should be in force pending judicial review. Indeed, we find the court going even farther. In Chicago, Milwaukee and St. Paul Ry. Co. *v.* Tompkins,[20] a temporary injunction was issued at the outset, but after a thorough trial the lower court declared the rates to be reasonable and denied a perpetual injunction. Upon appeal, however, the Supreme Court directed that the restraining order be continued pending a final decision of the case. This illustrates how zealous the court is in protecting the constitutional rights of the railroads. In view of the *dicta* and the practice of the court, it may be asserted with some confidence that a statute denying the temporary injunction in rate cases would be

[20] 176 U. S. 167.

overthrown by the court on the ground that, in effect, it prevented the courts from protecting the railroads in their constitutional rights. Nevertheless, it is to be regretted that the action, or inaction, of Congress has prevented a definite determination of this very important question.

6. *Penalties.*—The penal provisions connected with the rate-making power may be disposed of in a few words. They provide for punishment by fine only. "Any carrier, any officer, representative or agent of a carrier, or any receiver, trustee, lessee, or agent of either of them, who knowingly fails or neglects" to obey the commission's orders establishing rates, "shall forfeit to the United States the sum of five thousand dollars for each offense," and each day of violation is to be regarded as a separate offense.

In concluding this discussion of the amended Interstate Commerce Act, one question of a general nature must be briefly considered. In so far as the act pertains to the regulation of rates by the commission, how effective will it probably be? How well does it equip the commission with powers necessary for the successful control, in the public interest, of railroad charges? The answer to these queries must be the confession that, while the act will doubtless improve existing transportation conditions, it will in all probability prove but moderately effective. It is not in all respects thoroughly adequate. The review given above discloses several weak points. The commission will doubtless be embarrassed by its lack of authority over transportation exclusively by water, by the requirement of a formal complaint in all cases, by its inability to fix a minimum rate, and by the numerous serious difficulties incident to judicial review. In addition, a further obstacle may be found in the failure of the act to confer any right of control over the classification of freight. Two of these defects are probably inevitable under our constitutional system, but, even aside from them, the act is below the standard which might have been attained. Experience, however, will show better than present analysis the respects in which the act must be altered or strengthened before the commission can reach its maximum efficiency. For the present the reflection is possible that, whatever the achievements of the commission may be, the passage of the act has already been justified, for the large number of reductions in rates which have been voluntarily made by the railroads gives evidence that the enactment of the law has not been in vain.

PRUSSIAN RAILWAY ADMINISTRATION

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The development of the Prussian railway system may be summarized as follows:

I. The period of early railway building and state aid extended from 1835 to 1849, during which there were no state railroads. The first general law regulating Prussian railways was passed in 1838—comprehensive and detailed, providing for strict governmental *control*. From 1843 to 1849 the state assisted various private railways by guaranteeing a minimum interest to takers of stock, reserving to itself the right to take over the lines if the companies proved unable to profitably operate them.

II. The first period of state railroads lasted from 1850 to 1880, during which private and public lines were co-existent. The first state railroad, constructed for military reasons, was opened in 1850, and at the end of that year amounted to 54 miles in length. By 1880 Prussia had built 5,350 kilometers and had taken over of private lines 700 kilometers—less than 435 miles. From 1862 to 1878 was a period of speculation and general railway development, during which many new railroads were projected.

III. State railways predominant, 1880 to the present time. In 1878 a definite policy of nationalization for all Prussian railways was inaugurated, including the purchase of existing private lines and the extension of the state railroads. Beginning in 1880, by 1886 the state had acquired about 12,800 kilometers and had built 2,000 kilometers[1] more. Since that date, and up to April 1, 1905, it has built 10,000 kilometers and bought or secured by lease 3,300 more. Only in the years 1887, 1890, 1893, 1895, 1897 and 1903 did it acquire more than 100 kilos a year, while during the same period it has constructed from 300 to 680 kilos annually.[2] In 1895 the

[1] A kilometer is .6214 of a mile.

[2] Geschäftliche Nachrichten für den Bereich den vereinigten preussischen und hessischen Staatseisenbahnen. Teil I. Berlin. 1906, pp. 19, 20.

state administrative system was reorganized, simplified and centralized, and in 1897 the Hessian railways—somewhat less than 600 miles—were incorporated in the Prussian system, which also operates the imperial lines in Alsace-Lorraine. From 1850 to 1880 the state built, during the next six years bought, and from 1887 to the present time built again, mainly. At the present time, more than nine-tenths of the railway mileage of Prussia is owned and operated by the government.

Classification of Prussian Railways.

The law of 1838 classified Prussian railways under two heads:

(1) Main lines (Hauptbahnen)—standard guage, important roads, nearly equivalent to our "trunk lines."

(2) Branch or feeder lines (Nebenbahnen), also of standard gauge, of secondary importance, yet a part of the general railway net. There is no intrinsic difference between the two classes as far as track, roadbed, etc., are concerned. Fewer and slower trains, less mail, etc., are the signs of difference in traffic importance rather than in essential equipment.

A later law—that of 1892—made three additional classes:

(3) Local railways or "light railways" (Kleinbahnen), which serve local rather than through traffic, and correspond roughly to American suburban or interurban railroads, operated usually by steam. These are held to be no part of the general traffic system and are subject to different regulations from (1) or (2). We may, therefore, omit "Kleinbahnen" from this account of the general Prussian railway service, noting only that if a light railway attains sufficient importance it may be transferred into the class of branch railroads (2), becoming an integral part of the general system.

(4) Small private feeder branches (Anschlussbahnen).

(5) Isolated private roads, not operated by locomotives, are of still less importance, and have no part in the discussion of the public traffic system. We may, therefore, confine our attention to the two main classes first enumerated and from an American viewpoint class them, for many purposes, as one.

There are 21,017 miles (33,822 kilometers) of railway (main and branch lines, standard gauge) operated by the Prussian state; and 1,477 miles of standard gauge railroad operated by private

companies, of which 265 are classed as main line (Hauptbahnen.)[3] Most of this lies in Prussia, except the Hessian roads and the imperial lines in Alsace-Lorraine—some 2,500 miles, operated by Prussia. During the year 1904-5 the state built or completed 314 miles of track and purchased 34 miles. By April 1, 1907, from the budget estimates,[4] there will be 35,107 kilos of standard state railway in operation—21,816 miles, besides 150 miles of narrow gauge state railway.

This large mileage, three-fifths of all Germany's and twice the size of the Pennsylvania System, is operated by the Prussian Minister of Public Works and his railway administration, consideration of which naturally falls under four heads:

I. Control of the Prussian railways by the Imperial Government.

II. The Minister and the system of Directories.

III. The Advisory Councils.

IV. Other administrative bodies.

I. *Imperial Supervision.*

It may be well to recall at the outset that Prussia, the largest and most populous of the states of Germany, is not coextensive with the empire. Above Prussia, Bavaria, Baden, Saxony, and the smaller states stands the German "Reich"—and the control of the Prussian state railways by the imperial governments merits a brief consideration. If we imagine the State of New York to own and operate the railways within its borders, and to operate by lease those in Connecticut and Rhode Island also, we have a situation roughly corresponding to that in Germany, where Prussia not only owns and operates 18,000 miles of railways within its own borders,

[3]The mileage April 1, 1905, was divided as follows:

1. Standard gauge state railways	33,822	kilometers
2. Narrow gauge state railways	250	"
3. Anschlussbahnen (state railways) standard and narrow gauge	401	"
4. Private railways, standard gauge, main and branch lines	2,377	"
5. Private railways, narrow gauge	332	"
6. Local railways (private kleinbahnen)	7,178	"
7. Street railways (strassenbahnen)	2,349	"

Bericht über die Ergebnisse des Betriebes der vereinigten preussischen und hessischen Staatseisenbahnen, 1904-5. Berlin, 1905, pp 1-4. Also, Geschäftliche Nachrichten, 1906, pp. 8, 14, 15.

[4]Geschäftliche Nachrichten, 1906, p. 8

but manages also as part of its system the railroads in Alsace-Lorraine and Hesse—over 2,500 miles more.

By the imperial constitution adopted in 1871, the empire has the right of control and legislation on the subject of railways.[5] It may build railroads through any state, even against the opposition of that state.[6] (As a matter of fact, it has never exercised this right, but has left the construction and operation of railways to the various states.) Further, under Article XLII, the federal government binds itself to cause the German railways to be managed in the interest of the general traffic, as a single system, with uniform standards for new lines. Regulations for the operation of the roads shall be uniform, rolling stock shall be amply furnished to meet the demands of traffic;[7] time tables, freight trains and direct transfers of goods are provided for,[8] and, most important, the federal government reserves the right to control the tariffs,[9] and to unify and reduce rates on all German railways.[9] In times of flood or famine, railways shall carry grain, flour, potatoes and other provisions at reduced rates.[10] And finally, for military purposes, they are to meet any demand of the federal authorities for the use of the railways for the national defense; and troops and war munitions are to be transported at uniformly reduced rates.[11]

Constitutionally, therefore, the empire may exercise a wide control over all the railways, state or private, in behalf of the general economic welfare and for the military defense of Germany. In actual operation, this control is potential rather than actively exerted. The imperial railway office (Reichseisenbahnamt), at Berlin, receives reports from the railway directories of the several states, as to stretches of new track opened, new stations, changes in tariffs, etc.; it has the right to demand information of any railway or railway division, and to investigate it personally. Certain regulations besides, particularly as to branch lines (Nebenbahnen), must be approved by the imperial railway office. Its influence is further exerted to secure on all the German railroads unity of regulations and rates.

[5]Art. IV, 8.
[6]Art. XLI.
[7]Art. XLIII.
[8]Art. XLIV.
[9]Art. XLV.
[10]Art. XLVI.
[11]Art. XLVII.

11. *The Directories.*

The administration of the 21,000 miles of Prussian railway lines, out of a total of 32,000 in all Germany, is in the hands of (1) the Prussian Minister of Public Works, (2) the Royal Railway Directories, assisted by (3) certain Advisory Councils. It will not be necessary to discuss the system prior to 1895, when it was entirely reorganized, simplified and centralized.

At the head of the system stands the Minister of Public Works,[12] with an important undersecretary[13] and a staff divided into departments[14] of construction (Bauabteilung), traffic (Verkehrs-), management (Verwaltung-), and finance. General administrative oversight of the whole Prussian system—private as well as state railroads—is the duty of the minister's office. All special export tariffs and through rates are subject to his assent; commodity rates likewise; and both new rates and the changing of old ones must be approved by him.[15]

In the hands of the Royal Railway Directories, however, lies the actual fixing and adjusting of rates, freight and passenger, and administrative questions in general. Of these there are twenty-one, one having been added at the time of the incorporation of the Hessian railways with the Prussian system. They are located with centers as follows: Altona, Berlin, Breslau, Bromberg, Cassell, Cologne, Danzig, Elberfeld, Erfurt, Essen, Frankfurt-on-the-Main, Halle, Hanover, Kattowitz, Königsberg, Madgeburg, Mainz, Münster, Posen, St. Johann-Saarbrücken, and Stettin.

Each directory is a board of directors, having under its control all matters pertaining to the stretch of track within its jurisdiction. The directorate corresponds roughly to the division on the American railway. One directory may manage more mileage than another, depending on the density of traffic. The Berlin directory, for example, manages only 577 kilometers (in 1905), while that of Königsburg directs 2,276 kilometers of track, and Halle 1,970 kilometers.[16]

At the head of the directory is a president: two alternates, an

[12]In 1906, Herr Budde.
[13]In 1906, Herr Fleck.
[14]Universal Directory of Ry. Officials, London, 1904.
[15]Sammlung von Vorschriften betreffend die Gütertarife, Berlin, 1902, pp. 26, 27.
[16]Geschäftliche Nachrichten, Teil I, Berlin, 1906, p. 11.

Oberregierungsrath and an Oberbaurath, are chosen from the members to preside in the absence of the president.

The directory is most important. Here is lodged the responsibility of fixing and altering normal freight rates and passenger fares, commodity rates, preferential tariffs, export rates, changes in freight classification, and the whole administrative work of the division. Subject to control indeed by the minister, and assisted by advisory councils, the directories are the centers of the Prussian railway system.

Subordinate to each directory are four offices or sub-departments (Inspektionen), which have charge of the actual local management: (1) for traffic (Verkehr), (2) operation (Betrieb), (3) technical matters (Maschinen), and (4) machine shops (Werkstätten).[17] They are controlled by rather definite rules and regulations, only the directories having large discretionary power. The directorate at Altona, with a board of seventeen members, has thirteen operating managers, six machine "inspectors," four managers of machine shops, and five traffic managers. Berlin, with a directory numbering twenty-five, has nine in the operating department, two for "machines," eight for shops, and four traffic managers. And so they vary with the needs of the varying branches of the service. The duties of the machine shop and technical-mechanical (Maschinen) inspectorships hardly require explanation. The work of the traffic manager is to bring the public in his district into close touch with the railways, while the operating managers have charge of the running of trains, the maintenance of way, and track inspection.

Besides these four departments there are special construction offices (Bau-abteilungen) created by the Minister of Public Works when needed, for the overseeing of extensive track-building operations, sometimes independent of the directories, sometimes closely connected with them, but usually with duties carefully laid down by law.[18] The telegraph department, formerly classed as one of the Inspektionen, was abolished April 1, 1902, its work being merged partly in the general supervision of the directory, partly in the operating department.[19]

Each directory has its central office, with clerks, treasurer, and

[17]Bericht über die Ergebnisse des Betriebes der vereinigten preussischen und hessischen Staatseisenbahnen. 1904. Berlin. 1905. p. 12.

[18]Sonderabdruck aus Archiv für Eisenbahnwesen. 1905. pp. 313, 320.

[19]Geschäftliche Nachrichten, 1906, p. 30.

its own bookkeeping department. The methods of keeping accounts were much simplified by the reorganization in 1895, the amount of statistics required lessened, and the number of clerks reduced, effecting a saving of nearly $5,000,000 a year.[20]

Besides the strictly divisional duties of each directory—those pertaining to its own territory—certain general matters affecting the whole Prussian service are in charge of particular directories. The office at Madgeburg, for example, has charge of the car distribution for all Prussia; another directory controls the ordering of rolling stock; others the purchase of roadbed materials, rails, ties, etc.; workshop supplies; accounting and auditing for the general service; and the appointment of minor officials. There are, besides, made up from various directories, special committees on technical questions, such as locomotives, passenger coaches, brakes, telegraph and block signals.

The directories, then, are the most important and essential part of the Prussian railway administration, possessing, as they do, general control over the fixing and altering of freight rates and passenger fares, commodity rates, preferential tariffs, printing of schedules, entering into agreements with other German railways, etc. It is the directories which co-ordinate the technical and administrative elements so that unity of operation results; and to them is due in no small measure the success of the Prussian railway system.

The Control of Private Railroads.

Railroads owned and operated by private companies, serving public traffic, are also subject to the control of the directories, and require a brief consideration. Private railways in Prussia at the present time are few and of minor importance;[21] the only one with over 100 miles of track in 1905 was the Prussian Southern Railway, with 150 miles. The Prussian Government at the beginning regulated strictly the construction of all railroads, aiming to prevent the building of unnecessary lines. A company wishing to build through a certain district had to prove to the Minister of Public Works that existing lines were not sufficient; that the proposed road would serve the public interests; and that it was practical and permissible from a military standpoint. Detailed plans of the whole route must

[20]Collier—Report on Prussian Railways, 1902. (British Diplomatic and Consular Reports, No. 574. Also, Archiv für Eisenbahnwesen, 1905, pp. 326-329.

[21]This does not include local and street railways; only *main lines* and branches.

be submitted, together with the permission of local foresters to traverse tracts of woodland, and the consent of other local authorities. After construction, the state inspected the road, its maintenance, operation and rates, and exercised a far-reaching control. Railways already in existence were protected by the reluctance of the state to grant new charters.

With the almost complete nationalization of the railways, however, state control of private lines has ceased to be an important question: it is interesting only in connection with our American policy toward railroads. In Prussia, interest centers not about public control of private railways, but how best to manage the state-owned lines.

III. *The Advisory Councils.*

Closely associated with the directories, and provided for by law, are certain Advisory Councils—nine Circuit Councils and a National Council, representing the railway shipping interests and bringing into close touch with the railway management those who use it most. The Circuit Council (Bezirkseisenbahnrat), composed as it is of representatives of chambers of commerce, boards of trade, lumbermen, millers, foundrymen, dairy associations, iron and steel manufacturers, beet sugar men, etc., etc., knows most intimately the needs of the commercial classes. It may recommend to the directory changes in rates, in classifications of freight, in operating rules, etc., as needed by certain industries or the shipping interests as a whole. These recommendations the directory is bound to carefully consider; it is required by law to consult the council; it may ask its advice on any question connected with the service, and, while not compelled to adopt the council's recommendations, usually gives them most careful consideration.

As there are nine councils and twenty-one directories, one council advises more than one directory. The standing committee of the council hears petitions of shippers, complaints, and first debates thoroughly matters which it later presents to the council.

The National Council (Landeseisenbahnrat) bears the same relation to the Minister of Public Works that the circuit council bears to the directory. It consists of forty members, who hold office for three years; ten of them are appointed by the various Prussian state ministers, and thirty are elected by the circuit coun-

cils from residents of the city or province in which the circuit council acts. They represent agricultural, manufacturing, forestry, and trade interests. The national council meets twice a year, and considers general questions, such as the proposed budget, rates, general freight classifications, etc. It submits its report to the Prussian Landtag (Parliament), as well as making recommendations to the Minister of Public Works.

The councils bring railway and shippers together; railway officials learn the needs of shippers, while commercial bodies and shippers understand the railway, its policy and problems.

IV. *Administrative Adjuncts.*

Other bodies which play a more or less important part in determining Prussian railway rates and regulations are:

1. The General Conference of German railways—an imperial body, composed of members representing all the German railways, both state and private. Of 322 members in 1901, apportioned according to mileage, the Prussian state railways had 139 votes, Bavaria 28, Saxony 16, Alsace-Lorraine 11, Baden 10, etc. This conference discusses subjects of interest to all the German railways—not Prussia only—interstate rates, freight bills, etc. It is a voluntary advisory body, and does for Germany as a whole somewhat the same work as the national council does for Prussia.

Subordinate to the General Conference is the *standing commission*, which holds sessions with another subordinate body, the committee of shippers (Verkehrinteressanten), and prepares matters for consideration by the conference.

2. The Society of German Railway Managements, which includes more than German railways—those in Holland, Belgium, Roumania, Austria, Hungary, Bosnia, and Russian Poland. Both state and private railroads are eligible. It is concerned chiefly with questions of uniformity. It was instrumental in securing the treaty of Berne (1890), under which it deals with through rates, uniform bills of lading, international routings and customs house regulations.

This, then, is the Prussian system of state railway administration—Advisory Councils, responsible Directories, a Minister of Public Works, with general oversight. Owned and operated by the state, the railways are managed in accordance with a definite national policy—the economic development of Prussia as a whole, and Ger-

many, the industrial welfare of all parts of the state, and for the military protection and strengthening of the nation.

Labor Conditions.

Toward its employees the policy of the state has been liberal. Pension funds are provided for sick and disabled employees, and for those grown old in the railway service of the state. To these funds every workman contributes, and the administration pays an equal amount. In 1900 the old age pension fund amounted to $15,000,000. Dwellings also are erected for workmen, who are obliged to live near their work and are unable to obtain houses at a reasonable rate, which are rented to them at a low figure. In 1899, 30,840 such dwellings had been erected out of the funds at ordinary disposal; in 1905, the number had increased to 40,800.[22] Moreover, hours of labor are strictly limited for all classes of employees, long continuous unrelieved work being forbidden by law, and the law enforced.

In the 486 machine shops, in addition to the usual work, 2,439 apprentices were being trained (1905) for future service as machinists, repairmen, etc., besides 1,162 apprentices in special machine shops.[23]

There were on April 1, 1905, about 400,000 workmen and officials employed on the Prussian state railways.[24]

Engineering and Technical Results.

Improved passenger coaches are being put on, more like American cars than on other continental roads, with end-doors, wash rooms, vestibules, etc. The Prussian freight cars, always smaller than those in the United States, but larger than those in England, are being increased in size, to hold twenty and thirty tons;[25] and steel cars are coming into use.[26] Electric traction has been experimented with—a third-rail system. Westinghouse brakes, steam heat and gas lighting for passenger cars, and the adoption of a block signal system indicate that for European railways the Prussian are making good progress. In 1905 there were 32,847 telephones

[22]Geschäftliche Nachrichten, 1906, p. 119.
[23]Bericht über die Ergebnisse des Betriebes, 1904-05, p. 15.
[24]Geschäftliche Nachrichten, 1906, p. 118.
[25]A German ton equals 2,204 pounds.
[26]Bericht, 1904, p. 23, 1906.

in use in the railway service, of which 5,467 were installed during the preceding twelve months.[27]

Financial Results.

The capitalization of the Prussian-Hessian system, about $1,952,750,000 in 1899, amounted in 1905 to $2,225,000,000,[28] about $105,800 per mile. The average net profits amounted in 1903-4 to 7.12 per cent and in 1904-5 to 7.17 per cent of the capitalization. The excess of earnings over disbursements, which has amounted each year since 1894 to $100,000,000 or more, is applied, first, to pay the interest on the railway debt; then, except that a small sum ($500,000) may be used to meet any deficit in the ordinary state budget, the next claim is three-quarters of one per cent of the total railway debt (not the unextinguished portion) for a sinking fund; then, any balance may be invested in new lines or be paid to the government for general expenses. From 1881 to 1899 $350,000,000 was so turned over to the government. For the year 1904-5 the net profits amounted to $158,190,000.

General Conclusion.

"The results of the nationalization of the railroads in Prussia have been highly satisfactory," says Prof. Emory R. Johnson,[29] "particularly in its financial results." Its success has been due in no small part to the well articulated, flexible and elastic system of administration. A definite head, well defined control and responsibility all the way down from minister to depotmaster, with shippers in close touch with the railway management, result in rates which change with the changing needs of commerce, and in a service adequate for Germany. Preferential rates whenever granted are granted openly, after full and public discussion; there are no secret rebates. Prussia has satisfactorily solved the problem of government ownership. Would the United States be as succesful?

[27]Geschäftlichte Nachrichten, p. 34.

[28]Geschäftliche Nachrichten, p. 26; 8,902,921,000 marks for standard state railways, besides 17,000,000 marks in narrow gauge, and 12,000,000 in state "Anschlussbahnen" not in the general system. A mark equals 23.8 cents.

[29]American Railway Transportation, p. 342.

Outline of Prussian Railway Administration.

I. Minister of Public Works an undersecretary and staff

1. 21 Royal Directories, each directory having four departments or "inspektionen"
   - (*a*) Traffic (Verkehr).
   - (*b*) Operating (Betrieb).
   - (*c*) Technical (Maschinen).
   - (*d*) Machine shop (Werkstätte).
2. Construction in the hands of special construction departments (Bau-abteilungen), appointed by the Minister and usually under the control of the directory.
3. Certain directories have entire charge of special work for the whole system—car distribution, purchase of rails and ties, accounting, purchase of rolling stock, appointing minor officials, etc.

II. National Advisory Council

Nine Circuit Councils, composed of representatives of commercial bodies, which make recommendations to Directories.
- A standing committee of the council prepares matters for its consideration.

III. Imperial and International advisory bodies

1. General Conference of German Railways considers interstate matters with the help of its....
   - (*a*) Tariff Commission.
   - (*b*) Committee of Shippers.
2. Society of German Railway Managements considers international traffic questions, under Berne treaty.

IV. Imperial Railway Office at Berlin

Has general supervision over foregoing bodies as far as they affect the German Empire as a whole.

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PRUSSIAN RAILWAY RATE-MAKING AND ITS RESULTS

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The State of Prussia has a system of railways more than 21,000 miles (34,130.73 kms.[1]) in length, owned and operated by the government. It is the best example of an extensive system of government railways; and ever since 1880, when Prussia actively began the policy of buying up the large private railroads, there has been constant effort to perfect the all-important work of rate-making.

Fundamental differences clearly exist between conditions in the United States and Prussia.[2] The average length of haul in Prussia is but 70.7 miles, as compared with 244.3 in the United States.[3] The average shipment in the United States is very much larger, partly because the Prussian railways not only carry smaller quantities of freight, but in addition they do a parcel business. Furthermore, a large proportion of American freight consists of raw materials, while in Prussia a larger part consists of high-grade manufactured products. Items of income as well as of expense are different in the two countries—wages, building materials, fuel and other of the separate factors commanding different prices. In the passenger business, the denser and lower grade of traffic is a vital difference. Again, the huge area of the United States is in striking contrast with the small and compact area of Prussia. There are, moreover, radical differences in political and governmental conditions in the two countries, that require careful consideration by those who are studying the transportation policies of Prussia and the United States.

Foreign experience in government rate-making must necessarily be viewed with the greatest caution. Yet, though bearing in

[1] Bericht über die Ergebnisse des Betriebs der Vereinigten Preussischen und Hessischen Staatseisenbahnen, p. 6. Figures for March 31, 1905.

[2] *Ibid.*; Die Verwaltung der Offentlichten Arbeiten in Preussen, 1890-1900; Prof. W. Lotz, Verkehrsentwicklung in Deutschland; W. C. Noyes, American Railroad Rates, Ch. VIII.

[3] Year 1904, the railroads of the United States being considered as *one* system.

mind that what Prussia has accomplished does not demonstrate that similar accomplishments could be here attained, it is pertinent, in the face of the rapid extension of government ownership in foreign countries and the occasional waves of agitation in the United States, to analyze the most highly developed system of government rate-making in the world and to study its results.

I. *Rate Administration in Prussia.*[4]

Before 1895 the control over rates and their promulgation was decentralized. The Minister of Public Works was finally responsible, but under him there were eleven railway directorates, who were advised and aided in the immediate making of rates by seventy-five administrative district officials and a commission of private railways. In 1895, however, the administration was reorganized to the great benefit of the Prussian rate system.

The Minister of Public Works is still the final authority. The directorates have, however, been reorganized and their number increased to twenty-one. Distributed over Prussia, each in a given area, they are entrusted with the immediate work of rate-making. But really greater influence over rates than is exercised by the directorates is exerted by the circuit councils or "Bezirkseisenbahnräthe." They are boards of legal standing with the duty of thoroughly keeping in touch with commercial and industrial conditions, and of advising the circuit directorates on matters important in rate-making.

These councils (Bezirkseisenbahnräthe), now nine in number,[5] and with a membership consisting of representatives of industrial, commercial and financial organizations, have made it largely possible to bring Prussian rates into conformity with economic needs. There is, also, a national advisory council, similarly constituted and with forty-two members, whose duty it is, at least twice a year, to advise the central administration on matters of rate-making, just as the circuit councils do in the case of the directorates. To still further facilitate rate-making, there are the "general conference,"

[4] B. H. Meyer, in U. S. Industrial Commission, Vol. IX, p. 911; Die Verwaltung der Öffentlichen Arbeiten in Preussen (1901), p. 53; Die Entwicklung der Gütertarife (Berlin, 1904), pp. 11-12; W. Hoff, "Zur Wiederkehr des zehnten Jahrestages der Neuordnung der preussischen Staateseisenbahnverwaltung," in the Archiv fur Eisenbahnwesen, 1905, pp. 307-330.

[5] Die Verwaltung, etc., p. 53 (*Ibid.*).

composed of representatives of all German railroads; the "tariff commission," which is a subordinate part of the general conference and which considers petitions from shippers; and the "committee of shippers" which does much the same work as the tariff commission, but from the standpoint of the public. The Imperial Government, through the "Reichs Eisenbahnamt," retains the constitutional right to control the general policy of rate-making in Prussia, as well as in all other German states.

The Prussian railway officials have long seen that if they wish to avoid a system so rigid as to be fatal to industry, there must be centralization of rate administration, and co-operation between the shippers and all the railroads of Prussia. The result is a centralization of rate-making in the Minister of Public Works, and the district directorates, advised by the legally constituted national and circuit councils, which are bodies designed to secure the industrial and commercial information required for the intelligent adjustment of rates to economic conditions.

II. *The Prussian Freight Rate System.*

A mistaken idea has been fostered by many persons that Prussian freight tariffs have of necessity been reduced to a rigid distance basis; and that they have approached simplicity itself because a yard-stick, instead of industrial conditions and human judgment, has seemingly been the determining factor. It is true that the schedules are somewhat simpler than those in the United States, largely because a small and compact country permits greater simplicity, but nothing is more fallacious than the notion that distance is the sole factor, and that industrial and commercial needs are disregarded. If any generalization is permissible, it is that distance receives greater and commercial needs slightly less attention than are accorded them in the United States.

The Normal Freight Schedules.[6]—The class rate schedules of Prussia, constituting the simplest part of the freight tariff system, are given in the following table:

[6] Sammlung von Vorschriften betreffend die Gütertarife (1902), p. 10.

Normal Freight Transportation Charge.

Distances.	Less than Car-Load Lots.				Car-Load Lots.					
	Fast Freight.		Slow Freight.		General.	Special.				
	General Fast Fght.	Special Fast Fght.	General Slow Fght.	Special Slow Fght.	A_1	B	A_2	I	II	III
		Rates in Pfennig per Kilometer.								
1 to 50 km.	22	11	.....	.....	.....	.....	.....	.....	.....	.....
51 to 200 km.	20	10	.....	.....	.....	.....	.....	.....	.....	.....
201 to 300 km.	18	9	.....	.....	.....	.....	.....	.....	.....	.....
301 to 400 km.	16	8	.....	.....	.....	.....	.....	.....	.....	.....
401 to 500 km.	14	7	.....	.....	.....	.....	.....	.....	.....	.....
Over 500 km.	12	6	.....	.....	.....	.....	.....	.....	.....	.....
All distances	.....	.....	.....	8[7]	6.7	6	5	4.5	3.5	...
1 to 100 km.	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.6
Over 100 km.	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.2
		Dispatch Charge in Pfennig per 100 Kilograms.								
1 to 10 km.	20	10				8				
11 to 20 km.	22	11				9				
21 to 30 km.	24	12				10	6	6	6	6
31 to 40 km.	26	13				11				
41 to 50 km.	28	14				12				
51 to 60 km.	30	15				12				
61 to 70 km.	32	16				12				
71 to 80 km.	34	17				12	9	9	9	9
81 to 90 km.	36	18				12				
91 to 100 km.	38	19				12				
Over 100 km.	40	20				12	12	12	12	12

Separate classifications are made for piece goods ("Stückgutklassen") and carload lots ("Wagenladungsklassen"). Class rates are divided into fast freight or express rates and slow freight rates. Fast freight rates are again divided into a general fast freight class and a special class for specified freight, such as bees, bread, butter, fish, clams, vegetables, milk, fresh berries and plants.[8] Slow freight for less than carload lots is also divided into a general class and a special class for specified piece goods, already containing twenty-eight large specifications and many subdivisions, such as given kinds of foodstuffs and fodder, wood and woodenware, metal and metal wares, seeds, roofing, etc.[9] The classification for carload lots is divided into two general classes and three special ("spezialtarife)." General class A1 indicates the rates for general freight weighing less than 10,000 but more than 5,000 kilograms; and

[7] Over 726 km. as in general slow freight.

[8] Deutscher Eisenbahn Gütertarife. Teil I. Abteilung B. (1906).

[9] Eisenbahn-gütertarif, Teil I, Abteilung B. pp. 25-27 (1906).

class B indicates the rate for general freight weighing at least 10,000 kilograms. The "spezialtarife" are more complicated, each indicating the special carload rate on some specified commodity. Twenty-eight pages[10] of the German tariff schedule for 1906 are given to the enumeration of the commodities coming within classes I, II and III. Generally, class I includes raw products, class II intermediate products and class III manufactured products; but there are many exceptions to this, and products are at times shifted from one class to another. "Spezialtarif" A2 covers freight in special tariffs I and II, when the weight is at least 5,000 but less than 10,000 kilograms. Goods in class III, with weight less than 10,000 but over 5,000 kilograms, come within special tariff II.

As the table indicates, the freight charge for goods carried under the normal class rates consists of two items: (1) A transportation charge for the actual carrying of the freight, and (2) a dispatch fee as a terminal charge. For less than carload lots of special fast freight and general freight, the transportation charge is the same,—decreasing from 11 pfennig per metric ton kilometer for the first 50 kilometers (3.8 cents per short ton mile) to 6 pfennig for all distances over 500 kilometers (2.076 cents per ton mile). For example, if special fast freight or general slow freight is shipped a distance of 400 kilometers, it pays a rate of 11 pfennig per metric ton kilometer for the first 50 kilometers, 10 for the next 150, 9 for the next 100, and 8 pfennig for the last 100 kilometers. General fast freight pays just twice this transportation charge. The rate for special slow freight is 2.76 cents per ton mile for any distance up to 726 kilometers, and then it becomes the same as the rate on general slow freight. The rates for carload lots A1 and B are 2.3 and 2.07 cents, respectively, per ton mile for all distances; those for special classes A2, I and II are 1.7, 1.55 and 1.21 cents, respectively, per ton mile for distances up to 100 kilometers, and .76 cents per ton mile for all distances thereafter. The dispatch fees are, also, graded according to distance up to 100 kilometers. Carload lot A1 and all less than carload lots except general fast freight, pay the same terminal charges; general fast freight pays double this; class B pays a charge which remains unchanged for distances over 50 kilometers; and all the special carload classes are given identical dispatch fees.

[10] *Ibid.*, pp. 28-56.

The Live Stock Tariff.—The German government publishes a separate schedule of rates applicable to live stock.[11] The option is given to the shipper either to pay his rate on the basis of number of animals shipped, or of floor space occupied. On the basis of numbers, the rate varies according to distance, size and kind of animals, total number, and kind of car and train selected. On the basis of floor space occupied, the rate is per square meter and varies according to distance, size and kind of animals, kind of car and train selected, and for some animals, such as horses, is different east than west of a line drawn through Leipsig and Halle. In every instance there is a dispatch fee in addition to the transportation rate.

The "Ausnahmstarife."—Sixty-three per cent of the Prussian traffic does not, however, come within the classified schedules, but under special commodity rates or "ausnahmstarife." The practice of giving exception rates to selected commodities is the most striking part of the Prussian railroad rate system. Professor W. E. Lotz aptly calls it a kind of "Merkantelsystem."[12] With the deliberate purpose of regulating industry and commerce through the powerful medium of freight rates, sixty-three per cent of the traffic is given rates generally about one-half as high as the classified rates and seemingly unusually low as compared with the rates enforced in neighboring countries. The rates are given to build up particular industries, to promote specified districts, to protect German railroads against foreign railways and waterways, to overcome emergencies, to build up German seaports, to promote the German export trade and to discourage the entrance of specified imports.[13]

To build up the shipbuilding industry, iron and steel is given an exception rate from producing points to the shipyards. Exception rates on many raw materials and on fertilizers are granted to aid agriculture. Fuel receives a low rate to foster manufacturing in particular and all industry in general. A special rate is given

[11] Deutscher Eisenbahn-Tiertarif, Teil I, April, 1906. See also, British Diplomatic and Consular Rept. No. 574, Misc. Series,—Report of Prussian Rys, (1902).

[12] Verkehrsentwicklung in Deutschland, p. 66.

[13] Die Verwalten der Öffentlichen Arbeiten in Preussen, pp. 272-301; Ergebnisse des Betriebs der Preussischen und Hessischen Staatsbahnen (1904), p. 168; Die Entmickelung der Gütertarife der Preussisch-Hessischen Staatseisenbahnen, Berlin, 1904, p. 15; Solomon Huebner, Annals American Academy, Nov., 1904, Promotion of Commerce in Germany; British Rept. on Prussian Rys. (1902), p. 15; Wielenfeld; Die Nordwesteuropäischen Welthäfen, pp. 332-3; Lotz; Verkehrsentwicklung in Deutschland (1900), p. 64.

to cotton from German harbors to Silesia in order to build up the textile trades of Silesia.

To promote particular districts, coal, coke and briquettes from Westphalia to Hamburg and ports on the Weser are given lower rates, so as to counteract foreign competition at these ports and to develop Westphalia. Likewise, coal for steamers from Upper Westphalia to Danzig, East and West Prussia and Pomerania receives a lower rate. A typical instance of "ausnahmstarife," to draw traffic from foreign railways and waterways to Prussian railways, is the low rate on sugar from points in Russian Poland to Danzig and Königsburg, so as to prevent the sugar from going via Libau, Russia. Likewise, the low rates on hemp, flax, etc., from Russia to Germany, on cotton from Russian points to German harbors, and on petroleum from Roumania to Germany are typical instances. Emergency rates have, also, been occasionally granted. In 1891 special rates on grain were promulgated for long distances because of a crop failure; in 1893 a crop failure induced a special rate on straw and fodder; in the winter of 1898-9 an emergency rate on potatoes was granted to East Prussia; and in 1899 a special rate was made on all food and fodder destined to the Speerwald.

More frequent are the "ausnahmstarife" designed to build up German harbors. Prussia has granted preferential rates to Hamburg and Bremen so as to protect them against the harbors of Northwest and Southwest Europe, even at the expense of Prussian harbors. Preferential rates are granted on cotton, tobacco, fish, coffee, rice and other products in the trade between the German coast and the Rhine-Westphalia district so as to draw trade from the ports of Holland and Belgium.[14] Similar rates are enforced on numerous commodities which are sent to Austro-Hungary, Russia and Roumania over German railways. In the aggregate all these rates aim to build up the German North Sea harbors at the expense of Dutch Belgian, Russian Black Sea and Austro-Hungarian ports.

Closely allied to these preferential rates and even more numerous are the rates designed to conform with the German tariff policy, in order to regulate exports and imports. The Levant and East African "ausnahmstarife" give rates from one-third to one-fifth as high as British rates from interior points to Piræus, Salonica,

[14] Annals American Academy, Nov., 1904, Solomon Huebner, p. 106; Wiedenfeld, Die Nortwesteuropäische Weldhäfen, p. 322.

Constantinople, Odessa, Alexandria and numerous other places in the Levant, East Africa and points on Oriental and East African railroads. Likewise, to meet Austro-Hungarian sugar competition, preferential rates are given to sugar sent to Switzerland; to promote exports of corn, rape seed, malt, milk produce, etc., an export rate is granted to all nations, except Russia, bordering on Germany; export rates are enforced on brown coal and railway and tramway rolling stock to Roumania, on pig iron from Upper Silesia, Westphalia and Nassau to Austria, on various specified classes of iron and steel destined to foreign countries and German colonies, so as to meet the competition of Great Britain, and on liquor and spirits to Switzerland and France, iron and steel to Denmark and Russia, iron ore to Bohemia, cotton to Russia and starch to Italy. These are the main examples of how the Prussian government is employing its railroads to foster her export trade. A typical instance of the attempt to bar specified imports is the merely normal rate, from seaports to the interior, on agricultural produce which competes with German farmers, as contrasted with the reduced rates of agricultural produce within Germany so as to foster the German agricultural industries.[15]

III. *The System of Passenger Fares.*[16]

The general schedule of passenger fares which was enforced on Prussian state railways before October, 1906, is given in the following table:

Normal Passenger Schedule.[17]

	In Pfennig per Person—Kilometer.			
	I Class.	II Class.	III Class.	IV Class
One-way tickets—express train	9.0	6.67	4.67	..
One-way tickets—passenger train	8.0	6.0	4.0	2.0
Return tickets	6.0	4.5	3.0	..
Sunday tickets	4.0	3.2	2.0	..
Summer and tourist tickets	6.0	4.5	3.0	..
Season tickets	6.3	4.67	3.27	..
Workmen's tickets	..	..	..	1.0

Baggage to the extent of 25 kilograms is permitted to go free in classes I, II and III.

[15] Lotz, p. 66.

[16] Verwaltung der Öffentlichen Arbeiten in Preussen, p. 54; Johnson, American Railway Transp., p. 296; Denkschrift über die Reform der Personen und Gepäcktarife, by the Minister of Public Works (1905), pp. 14-23

[17] Die Verwaltung der Öffentlichen Arbeiten, p. 54.

There are four classes of passenger service for ordinary passenger, and three for express trains, and fares ranged respectively from 3.0 to 0.77 cents per mile and from 3.45 to 1.79 cents per mile. Return tickets were reduced to 1½ times the one-way tickets, and workmen could travel for .38 cents per mile on special fourth-class tickets. Many exceptions were made to the regular passenger fares. Children below four years of age could travel free of charge and those below ten years for half the regular fare. School children, Sunday travelers, summer tourists, groups of persons, holders of season tickets, visitors of educational institutions and bathing establishments, invalids who have been in war, German soldiers, and inmates of hospitals and institutions for sick, blind, deaf and dumb and orphans were given special fares. With all tickets in the first three classes 25 kilograms of baggage were carried free of charge.

In 1906 several changes went into effect. Return tickets were abolished; but, to compensate for this, one-way fares in II and III class service on ordinary accommodation trains were reduced to the fares which were formerly granted on return tickets. Fares in class I were reduced to 7 pfennig and in class IV remained unchanged. Instead of a separate schedule of fares for fast trains, a fixed difference was established between fast and slow trains, and baggage to the extent of 25 kilograms is no longer carried free of charge. With these alterations, the above schedule is now enforced on Prussian railways. The changes were primarily influenced by the tax which in Prussia is levied on passenger tickets.

A separate schedule of fares is provided for the Berlin Circle Railway and suburban traffic.[18] In case of the Circle Railway traffic, a fare of 15 pfennig II class and 10 pfennig III class is charged for any distance up to five stations, and double this fare is charged for greater distances. In the suburban traffic 15 pfennig II class and 10 pfennig III class is charged for distances of from 1 to 7.5 kilometers, double this for distances of from 7.6 to 15 kilometers, and treble it for distances of from 15.1 to 20 kilometers. For distances greater than this, 4.5 pfennig are added in class II and 3 pfennig in class III. With one exception, only second and third class service is given in this Berlin city and suburban traffic.

The fares on the Hamburg-Altonaer Railway,[19] like the Berlin

[18] Verwaltung der Öffentlichen Arbeiten, p. 57.
[19] *Ibid.*, pp. 57-58.

Circle Railway fares, are on the two-zone basis, but with three, instead of two, classes of service. For distances not exceeding 4 kilometers the fares are 20 pfennig I class, 15 pfennig II class and 10 pfennig III class. For greater distances the fares are 35 pfennig I class, 20 pfennig II class and 15 pfennig III class. The result on both the Berlin and Hamburg-Altonaer railways is a schedule of fares at once more uniform and lower than the normal fares on Prussian railways.

IV. *Results, Comparisons and Conclusions.*

When the Prussian policy of state railroads was inaugurated it was officially declared that the railways were to be so managed (1) that the people were to obtain a railroad system which would lead to industrial development, and (2) that the finances of the state were not thereby to be impaired.[20] In the management of the roads it was, furthermore, the original intention of Chancellor Bismarck (1) that while the system was being built and enlarged the railroads were to be operated for profits, just as a private enterprise, (2) that as this was being completed the rates were to gradually approach the cost of transportation, and (3) that finally the rates were to be merely sufficient to meet the cost of transportation and were to be established into fixed schedules.[21] During the development of the Prussian rate system the policy of the administration has been changed, and it has been found advisable and practicable to fulfil some of these declarations and to discard others. Prussian rate-making has its flaws as well as its virtues.

The Movement of Freight Rates.—Since the widespread introduction of state management, freight rates have followed a downward course. Reductions have been made both in the classifications and in the rates themselves. Many new items have been added to the classifications and large reductions have been obtained by shifting articles from higher to lower classes. In this way a reduction of 25 per cent has been secured since 1877 in the case of articles shifted from class B to special tariff I, 42 per cent in changes from class B to II, as much as 63 per cent in changes from class B to III, 22 per cent in shifts from class I to II, as much as 51 per cent in changes from class I to III, and from 26 to 37 per cent reduction

[20] Die Entwicklung der Gütertarife (Berlin, 1904), pp. 1-6.
[21] Prof. Lotz, pp. 57-58.

in changes from class II to III.[22] The extent to which reductions have been made by placing general package freight into special classes is seen in the increase in the number of special tariff items. In 1878 the "spezialtarife" embraced 160 items, but by 1904 this had increased to 364.

The greatest activity of the administration has, however, been in the enlargement of the traffic shipped under "ausnahmstarife." Marked reductions have been made in this way. From 1879 to 1903 coal shipped from the Ruhr district has had rate reductions amounting to from 10.4 to 26 per cent; coal shipped from Upper Silesia, likewise, has witnessed reductions of from 9.7 to 42.2 per cent, from Lower Silesia of from 5.0 to 25.2 per cent, and from the Sahr district of from 8 to 27 per cent. Rates on iron ore shipped between specified points have been reduced by from 33 to 44 per cent, rates on pig iron by from 10 to 35 per cent, on potassium salt, since 1882, by from 29 to 47 per cent, and on fertilizing lime by from 40 to 53 per cent.[23]

Rate comparisons are at best misleading, and charges per ton mile make such comparisons even more questionable. Comparing, however, the Prussian per ton mile charge with those of neighboring countries, it is found that in 1902 the charge in Prussia was 1.238[24] cents, in France 1.33, in Austria 1.26 and in Hungary 1.24 cents.[25] For the same year the charge per ton mile in the United States was .76[26] cents. Though this marked difference between Prussian and American rates is made misleading by the prevalence of bulky freight and long distances in the United States, yet not even the German officials deny that American freight rates are generally lower.[27] The somewhat lower rates in Prussia than in the surrounding countries, of more like economic conditions, is, however, indicative of the progress made by the Prussian state railroads. Likewise, the fact that "on the Prussian private roads much higher, often very much higher, normal rates"[28] are enforced than on the Prussian state railroads and that the rate per ton per kilometer is slightly higher on the government roads of neighboring

[22] Die Entwicklung der Gütertarife (Berlin, 1904), p. 14.
[23] *Ibid.*, pp. 18-20.
[24] *Ibid.*, p. 22.
[25] H. T. Newcomb, Railway Rate Regulation in Foreign Countries, p. 81.
[26] .78 cents in 1904.
[27] Entwicklung der Gütertarife, p. 23.
[28] *Ibid.*, p. 22.

German states are again indications that the Prussian state railroad rates are low as compared with the rates of other European railroads.[29]

The Movement of Passenger Fares.—On the one hand, while Prussian freight rates are higher than American freight rates, Prussian passenger fares are distinctly lower. The average fare per passenger mile in the United States is 2.006 cents, while in Prussia it is but .93 cents.[30] This great difference is partly because out of the 8,343,651,715 person kilometers[31] of Prussian travel in 1904, 7,875,546,842 were within the two lower classes, partly because of the multitude of special fares, and partly because the Prussian figure includes a large amount of suburban travel which in the United States is handled by street car companies.[32]

On the other hand, while Prussian freight rates are steadily declining the passenger fares in the general schedules do not decline as rapidly. The earnings per passenger mile decrease, but it is due largely to the special fares and the increased travel in the lower classes—not to a reduction of the general fares. In consequence of this, in spite of the low general level, there is not the same contentment as in the case of freight rates. The situation has, perhaps, been somewhat changed by the reform of 1906.[33]

Industrial and Commercial Results.—In the United States the predominating forces in the determination of freight rates have been commercial and industrial. Many persons, blinded by the presence of political, social, educational and military motives and the element of distance which have influenced the policy of Prussian rate-making, have been led to believe that freight rates in Prussia retard the growth of industrial and commercial interests. Pages of scholastic indictment have been written against the prevalence of distance considerations. But such charges hold only to a limited extent. Distance and mechanical uniformity are over-important only in case of the classified schedules, and that is why the normal schedules are the weakest part of the Prussian rate system. Freight shipped under these rates occasionally finds difficulty in going to

[29] Russian rates are excepted, because of the great preponderance of long-distance hauls

[30] Ergebnisse des Betriebs, etc. (1904), p. 45.

[31] *Ibid.*, p. 43

[32] Prof E. R Johnson, American Railway Transportation, p. 296.

[33] Lotz, p. 69; also, Denkschrift über die Reform der Personen und Gepäcktarife (1905).

distant markets; and yet it must be borne in mind that the effect of distance considerations in a small and compact country such as Germany cannot be judged by the probable effect they might have in shipments from Chicago to New York. The far greater importance of distance in the normal tariffs of Prussia than even in the class rates of the American trunk line district causes them to yield less readily to commercial demands; but they are not "iron-clad." This is due to the constant watchfulness of the twenty-one railroad directorates, the nine circuit councils, the "landeseisenbahnrath," the general conference, tariff commission of railways and the committee of shippers. These destroy much of the rigidity which would otherwise prevail.

Chancellor Bismarck's plan to reduce all traffic to a fixed schedule has wisely been abandoned, as the administration soon found it incompatible with the promise to promote industry. The distinct tendency is toward the growing adoption of the "ausnahmstarife." As was shown above, many of these have been promulgated for the special purpose of building up particular industries and business in general. Largely because of the preferential rates the coal traffic in the Ruhr district[34] was swelled from 20,309,311 to 65,583,430 tons, or by over 223 per cent, in Upper Schlesien by over 183.5 per cent, in Lower Schlesien by over 115 per cent and in the Sahr district by over 124 per cent. Likewise the traffic in German pig iron increased by over 350 per cent,[35] and in potassium salt by over 549 per cent.[36] These are examples of the promotion of special industries. That industry in general has not been retarded is shown by the growth of the total Prussian freight traffic from 8,903,091,000 ton kilometers in 1879 to 30,502,390,130 in 1904.[37]

The building up of export trade and North German harbors, while partly influenced by political considerations, has benefited not only Prussia but the industry and commerce of all Germany. Low rates on particular commodities to foreign and colonial markets have stimulated German exports and like a tariff wall have partly protected these industries against foreign competition. Contrary to the original plans of Bismarck, these rates tend to build up large cities; but this has been more at the expense of foreign seaports

[34] Entwicklung der Gütertarife, p. 18.
[35] *Ibid.*, p. 19.
[36] *Ibid.*, p. 20.
[37] Die Ergebnisse des Betriebs, etc. (1904), p. 165.

than at the expense of smaller German cities. Whether or not this is advisable, the building up of large cities has been a less marked result of freight rates in Germany than in the United States. It is also true that political influences are present; perhaps this would be fatal to government rate-making in the United States, but in Prussia it has chiefly taken this form of promoting exports, and in so doing has benefited German industry.

The policy of the Prussian government has been to build up river and canal transportation side by side and in co-operation with the state railroads. For example, from 1890 to 1900,[38] the state expended 10,831,100 marks for improving the Rhine, 795,000 for the Ems, 401,500 for the Weser, 3,631,100 for the Elbe, 3,403,700 for the Oder, 87,359,700 marks for the construction and improvement of canals, and 31,022,300 marks for the canalization of streams. This promotion of water transportation is not because of any failure of the Prussian railways,[39] but because certain state officials believe that canals are desirable for the transportation of bulky products over long distances, and for military purposes. River and canal rates in Germany are generally about one-third as high as railway rates,[40] largely because of these natural advantages and because they are based upon cost of maintenance, while the railway rates are partly based upon profits. It is the policy of the state to operate both the waterways and the railways, and through their unified activity to promote German industry. Whatever may be the wisdom of this policy, the revival of canal construction does not indicate the industrial and commercial failure of the state railways.

Conflicts of sectional interests sometimes prevent a change of railroad rates to conform strictly with industrial needs, but this is true, also, in the United States. The merchants in Prussia are satisfied with the present rates and their downward tendency as compared with previous rates; and, strange to say, they praise the relative stability of Prussian rates[41] as loudly as many Americans laud the elasticity of American rates. Commercial and industrial

[38] Die Verwaltung der Offentlichen Arbeiten, pp. 150-176.

[39] Govt. Regulation of Rwy. Rates, B. H. Meyer, in Jour. of Pol. Econ., Feb., 1906.

[40] Annals American Academy, Nov., 1904, p. 104, S. Huebner, Relation of the Government in Germany to the Promotion of Commerce.

[41] Die Entwicklung der Gütertarife, pp. 12-13.

considerations are not so controlling as in the United States; but, on the other hand, much has already been accomplished by the Prussian state railroads, and whatever is accomplished is done in the light of full publicity and not secretly with private parties. Rebates and personal discriminations are unknown on the Prussian state railways.

Financial and Technical Results.—Financially the Prussian state railroads have been highly successful. The desire of Bismarck ultimately to reduce the rates to a basis of cost has been discarded from the policy of the administration. Freight rates have declined, but with the effect of increasing the profits to the state. In 1905 the passenger service yielded a gross income of 446,335,000 marks, the freight service of 1,073,600,000, and the income from miscellaneous sources was 98,182,000, a total of 1,618,117,000 marks. In the same year the total operating expenses amounted to 983,439,300 marks. There was consequently a surplus of 634,677,700 marks, or over $151,000,000.[42] If to the operating expenditure charges for interest, special funds, etc., are added, there was still in 1905 a net profit to the state of over $120,000,000.[43] In 1904 the net profits equaled 7.17 per cent on the total railway capitalization of 8,824,957,896 marks.[44] Not only has the railway debt been steadily reduced in late years, but large sums have each year been turned into the state treasury to defray general state expenses. If all the railroad profits which have been turned into the state treasury had been used to pay the railroad debt, every cent of the debt would now be paid.[45] It was feared at first that the nationalization of the railways would endanger the business of the state, but instead the railroads have become a money producing agency based upon the policy that railway rates and fares are more readily paid than an increased rate of taxation.

The reduction of freight rates and the growth of profits have not been at the expense of technical improvements. In the matter of size of cars and trainloads, introduction of steel cars, automatic couplings, tunnels, terminal facilities, and in many other technical matters, the railways of Prussia are inferior to those of America. At the same time, the state railroads of Prussia are making greater

[42] Ergebnisse des Betriebs, etc., 1906, pp. 50-51.
[43] B. H. Meyer, Jour. Pol. Econ., Feb., 1906, p. 97.
[44] Ergebnisse des Betriebs, etc., 1904, p. 11.
[45] Prof. B. H. Meyer in Jour. Pol. Econ., Feb., 1906, p. 96.

progress than other railways of Europe—whether private or state. In 1904, 128,747,348 marks were expended on the increase and maintenance of rolling stock, 177,771,095 on construction and 163,603,919 on general equipment and engines.[46] Larger engines and cars and better terminal arrangements are being introduced side by side with the reduction of rates and increased profits. Better use is being made of cars by means of telegraphic reports sent from each district to the directorate at Madgeburg, and by agreements permitting the use of foreign cars.[47] Where traffic is very dense special depots for particular freight are provided, instances of which are the cattle depot and fuel depot at Berlin,[48] the block signal system is almost universal, as far as possible dwellings are erected by the state for employees, who must live near the railways, refrigerator cars and special fast trains are introduced for perishable goods.[49] and, as in the United States, second, third, fourth and even fifth tracks are being constructed to avoid congestion of traffic.[50] As a general rule, these improvements are first introduced by the Prussian state railway, and then are gradually adopted by the private and other state railways of Germany.

The physical, social, political, governmental and economic conditions of Prussia differ from those prevailing in the United States. Prussian experience does not demonstrate the feasibility of government rate-making in America, nor does it demonstrate superiority over the American system of rates made by private railroads under partial government supervision; but, as applied under Prussian conditions, government rate-making has been industrially, commercially, financially and technically successful.

[46] Ergebnisse des Betriebs, etc., p. 33.
[47] *Ibid.*, p. 62.
[48] British Rept. on Prussian Railways, pp. 25-26.
[49] Verwaltung der Offentlichen Arbeiten in Preussen (1901), p. 61.
[50] *Ibid.*, p. 15. Ergebnisse des Betriebs (1904), p. 10.

APPENDIX.

A New German Passenger Tariff.[1]

The negotiations among the several states of the German Empire for a uniform passenger tariff, which have been pending some two years, have resulted in an agreement, and the reformed tariff will probably go into effect May 1, 1907. The basis of the new tariff is as follows:

	Class 1.	Class 2.	Class 3.	Class 4.
Pfennige, per kilometer....	7.0	4.5	3.0	2.0
Equals, cents per mile	2.68	1.72	1.15	0.767

The chief obstacle to a uniform tariff was the objection of the South German states to the introduction of the fourth class, and this has not been wholly overcome; for in Bavaria and Baden no fourth class cars are contemplated; but on local trains only the fourth class rate will be charged for third class cars, the rate being known as 3b.

With these rates there will be no reduction for round-trip tickets, and no free baggage. The above rates are for ordinary passenger trains. For express trains there will be an addition, but not as heretofore, an addition of so much per kilometer, but a fixed sum for three zones, namely:

	Kilometers		
	1 to 75.	76 to 150.	More than 150.
Classes 1 and 2.....	0.50 pf.	1.00 mk.	2 mk.
Class 3.....	0.25 "	0.50 pf.	1 "

That is, for distances less than 47 miles, the ticket will cost 6 cents more in the third class and 12 cents more in the higher classes; 47 to 93 miles, 12 cents third and 24 cents first and second; all greater distances, 24 cents third and 48 cents in higher classes. This, it will be seen, is a substantial addition to the fare for short distances; thus, New York to Stamford second class, 54 kilometers, the fare would be 2.33 marks by passenger train and 2.83 by express; to New Rochelle, half as far, the fare is 1.16 marks by passenger train and 1.66 by express; in the first case 21 per cent, in the other 41 per cent more for the fast train. But for great distances the charge for speed is inconsiderable: 24 cents to Philadelphia and only 48 cents for the longest distance for which tickets are issued. The purpose of this, doubtless, is to keep local travel off from long-distance express trains; but it would seem to be disadvantageous for the longer distance suburban trains, such as New York-Morristown, New York-Tarrytown, or New York-Stamford; where a whole train can be filled at either terminus, to the advantage both of carrier and passenger.

What we would call coupon tickets over two or more different lines by the new tariff will cost 0.115 cent more per mile for the first and second class and 0.077 cent more for third class than the tickets over one line; but they have the important advantage that they are good both on passenger

[1] Reprinted by permission, from the Railroad Gazette of February 15, 1907.

and express trains. As comparatively few journeys as long as 300 miles can be made without such tickets, the one mark and two mark additions for express trains for all distances above 93 miles have very much fewer applications than they would have in a country like this. Suburban and holiday tickets, school and workmen's tickets are excepted from the uniform tariff, but most other commutations, such as mileage and book tickets, are prohibited.

There has been heretofore on some (perhaps all) of the roads affected an allowance of 25 kilograms (55 lbs.) free baggage. By the reformed tariff all baggage taken in baggage cars will be charged at the following rates for every 25 kilograms:

Zone.	Marks.	Zone.	Marks.
1 to 25 km.	0.20	351 to 400 km	2.00
26 " 50 "	0.25	401 " 450 "	2.25
51 " 100 "	0.50	451 " 500 "	2.50
101 " 150 "	0.75	501 " 600 "	3.00
151 " 200 "	1.00	601 " 700 "	3.50
201 " 250 "	1.25	701 " 800 "	4.00
251 " 300 "	1.50	More than 800 km. ..	5.00
301 " 350 "	1.75		

That is, for less than 16 miles, 4.8 cents for 55 lbs. or less; anything more than 55 lbs. up to 110 doubles the charge; 16 to 31 miles, 6 cents; then an addition of 4.8 cents for every 31 miles up to 310 miles; 12 cents for every 62 miles up to 500 miles, and for all distances greater than 500 miles $1.19 per 55 lbs. This makes New York to Philadelphia 18 cents for 55 lbs., 36 cents for 56 to 110 lbs., and 54 cents for the 150 lbs. free baggage allowed on American railroads. New York to Washington or Boston our allowance of free baggage would cost $1.43; Chicago to Buffalo, $3.57; but no more from Chicago to New York. These rates are likely to make the passenger think twice before he packs his trunk; which is doubtless desirable. In one country where the matter was investigated, it was found that not one passenger in seven had any baggage for the baggage car, and it is questioned whether the six should be taxed for the benefit of the one who does have baggage; that is, whether they should pay as much as though they had baggage.

In comparing with conditions here, it should be remembered that the free baggage allowance in Germany heretofore has been but 55 lbs. (where there was any), and that the German cars enable the passenger to carry into the car with him probably more than three times the amount of baggage that he could dispose of conveniently in one of our cars. At the above rates baggage may be taken up to the weight of 440 lbs. on one ticket. For weights in excess of this the rates are doubled. Applying these rates to the journey from New York to Chicago, with the allowance of 150 lbs. of baggage (165 lbs. would cost no more), we have:

	Class 3.	Class 2.	Class 1.
Fare	$10.71	$16.07	$24.99
Speed	.24	.48	.48
Baggage	3.57	3.57	3.57
Total	$14.52	$20.12	$29.04

The German second class cars are as good as our first class on most long routes. The first class can hardly be said to be better, but there is usually plenty of room in them. If we take a passenger without baggage, the charge is reduced to $10.95, $16.55 and $25.47 respectively.

Journeys of that length, however, are extremely rare in Germany; and even those of half that length are not common. From New York to Buffalo the German charges would be:

	Class 3.	Class 2.	Class 1.
Fare	$5.05	$7.58	$11.79
Speed	.24	.48	.48
Baggage	2.85	2.85	2.85
Total	$8.14	$10.91	$15.12

This is an unfavorable specimen on account of the baggage; if the distance were only five miles less the charges would be 30 cents less. New York to Boston or Washington (say 370 kilometers) we have:

	Class 3.	Class 2.	Class 1.
Fare	$2.64	$3.96	$6.16
Express	.24	.48	.48
	$2.88	$4.44	$6.64
Baggage	1.43	1.43	1.43
Total	$4.31	$5.87	$8.07

No figures are given for fourth class fares, because fourth class cars are not run on express, nor for long distances. In considering these comparisons it should be remembered that the German fares are to be good on all state railroads in the German Empire, and our figures are chiefly for the routes of heaviest travel and lowest fares in this country. Comparisons with routes in the far West and the South would be much more unfavorable for the American lines. There are nowhere in Germany districts where population is so thin and travel so light as in many parts of this country. Further, it should be remembered that an overwhelmingly large part of the German travel is third class. Again, there is now a tax on tickets, which adds to the traveler's expense, though not to the railroad's income.

AN ARGUMENT AGAINST GOVERNMENT RAILROADS IN THE UNITED STATES

By William Allmand Robertson, Esq.,
New York City, of the New York and Boston Bars.

The people of the United States are enjoying unprecedented prosperity. The causes of the present rapid development of the country are numerous, but probably the highly developed railway transportation system has been more influential than any other force. In 1870 the railroad mileage of the United States was only 53,000; to-day it is 220,000, an increase of over 300 per cent in a generation. Although no one questions the financial success of private management of railroads, there are many persons who believe that the railroads in the United States should, in the future, be owned and operated by the government. Those who are of this opinion argue that the railroads as now managed are a private monopoly, the effects of which are detrimental to the public, and that the only method of escaping the results of private monopoly is to substitute therefor the greatest government monopoly the world has ever known.

Such a program is so revolutionary that it can be justified only by an absolute demonstration of the failure of the present method of private ownership and management of railroads to meet equitably and adequately the transportation needs of the people of the United States. Furthermore, the advocates of the change must be able to prove that government operation can be made a success.

If a radical change is to be made in present railway operation, it must certainly be made only for good reasons. Are there adequate reasons? If so, one of the reasons would naturally be high rates. As far as rates are concerned, the consensus of intelligent opinion is that rates are generally lower in the United States than in any other country, and that until very recently, at least, they have tended steadily to decline. The complaint in regard to rates is not that they are too high in general, but that they are unduly high in certain localities and that they are not uniform to all shippers, *i. e.*, that they are to some extent extortionate and to a large extent discriminatory.

How far, it may be asked, will government ownership simplify the problem of rate-making? It may, of course, be assumed that the government will be as much concerned as would any private corporation in establishing freight rates that will be reasonable and attractive to shippers generally, and at the same time remunerative and yield fair profits upon the capital invested. To one who has never considered the subject, the intricacies of rate-making will prove a painful and vexatious surprise. There are so many different and discordant elements entering into the conditions that an exact solution is impossible. It is not our purpose to explain in detail what the rules of rate-making are or should be, but rather to emphasize the inherent and accumulated difficulties involved. As observed by the Industrial Commission, in its report to Congress,[1] "the conditions are highly complex, and no simple and general rules can be made to govern in all instances. The very complexity of the problem emphasizes the necessity for intelligent direction."

The problem which a freight agent or traffic manager has to meet is so different from that which the public supposes, that it is hard to explain it in a few words. The picture that seems vividly portrayed upon the minds of most men is that of the general freight agent arbitrarily deciding upon whatever rate he deems sufficient to pay for the "cost of service" (the cost of actually moving a ton of freight a certain distance), together with enough to cover the company's taxes and the interest on the bonded indebtedness (which is generally assumed to be needlessly and culpably large), and to pay dividends on an artificial and imaginary capitalization. In reality, this sort of reasoning is putting the cart before the horse. The rate is really dependent upon conditions in the world of trade, the character of the commodity to be moved, the extent of competition from other carriers, either rail or water, and the possibilities of the development of a line of business or a section of country.

When the rate has once been made and the revenue earned, the next problem is the prosaic one—very familiar to every housekeeper—of adjusting expenses to income. The name of these expenses is legion: The wages of labor and the cost of fuel and innumerable supplies are elements in the cost of conducting transportation. The maintenance of the roadbed and stations, and of the terminal facilities in great cities—these are elements in the maintenance of the

[1]Report of Industrial Commission, Vol. XIX, p. 359.

physical property of the road. New engines and cars and the repair of old ones make up the account called maintenance of equipment. The taxes due the state, and the interest on the bonded debt of the company, make up the company's fixed charges; charges which must be met if the corporation is to remain solvent.[2] Then there is still the need of setting aside funds against the depreciation of the property, the maintenance of a surplus against hard times and unlooked for expenses and emergencies; and, lastly, the raising of a net revenue for dividends, so that those who own the road may receive some return on their investment. All these varied expenses enter into the financial side of railroad management.

Very often the salvation of a road is bound up with a reduction of its cost of operations rather than in the raising of its freight rates —which latter performance is likely enough to be a sheer impossibility, and unwise, even if possible. The Lehigh Valley and the Southern Pacific roads are recent illustrations of this fact. Both of these companies found it necessary some years ago practically to reconstruct their properties, if they were to remain in the business of transportation and earn money. After periods of entire cessation of dividend paying, and by means of prodigal expenditures on improvements, they have once more taken their places in the list of properties for investment. Very often these periods of reconstruction press with crushing force on the owners of the road, the stockholders, of whom we hear so little in most of the discussions on railroad reform. Sometimes nothing else than a heavy loan will give the company the ready cash to meet importunate but just demands of shippers for increased facilities and speedier transit of freight. Sometimes there must be the heroic remedy of a receivership, a scaling down of indebtedness, and a general reorganization.

It is idle to imagine that officials or clerks in a government bureau will be able to handle such questions as we have mentioned better than the trained, experienced and well-paid officers of a railroad. Nay, it is difficult to think of their being intelligently, speedily and satisfactorily disposed of at all by any government department. Whoever has had dealings with a great government office knows the truth of these words. For reasons that are pretty well under-

[2]The author, in using the term "fixed charges," is aware that opinions differ as to precisely what should be included in that term. So also as to the other items of expense set out.

stood by the American people, the government possesses an unrivaled facility for drawing to itself a vast proportion of the mediocre, the lazy and the unambitious. While every government office contains a certain modicum of faithful and efficient public servants, it is usually the irony of fate that they are in a permanent minority, are persistently underpaid, and, if they have not lost heart, are seeking an early opportunity to retire from public service altogether. In short, there is a steady tendency for the competent to resign and the incompetent to remain, coupled with an appalling official inertia that tends to stifle the slightest exhibition of individual enterprise or initiative. This fatal tendency toward petrified conservatism is one of the worst features about the conduct of public business. Nor is there much hope of any marked improvement through civil service reform. Excellent as that is, it is at best a cumbersome piece of machinery, ineffective outside of certain limits. A vast improvement on the spoils system, it has completely failed to raise the average government office to anything like the level of effectiveness easily secured in any good private business establishment. Enthusiastic reformers cheat themselves into the belief that the weight of an enlightened public sentiment—the traveling and shipping public being brought in daily contact with the railroad—would compel an improvement in the conditions we have pictured. Has the weight of public sentiment ever permanently cured the lesser diseases of the body politic? Has it brought effectiveness, economy and high character into the police, street and water departments of our great cities? How often is a state capitol built within the appropriation? Have the taxpayers of New York ever checked extravagance and corruption on the Erie Canal, or taken that formerly useful artery of travel out of "politics?"

Even assuming that the tone of the public service can be made equal to that of an ordinary business house, the question still remains why government officials will be able to solve transportation problems better than private individuals. There is no magic in wearing the livery of government, and no private fund of knowledge is at the disposal of its officials. They have no peculiar facilities for reaching correct conclusions. The problems will not be a whit simplified by placing the carriers in the hands of a government bureau. The difficulties that now hang about the subject of freight rates are inherent and rest in the very nature of the service to be

performed. Unless freight rates are to be prescribed on a blind, arbitrary and unreasonable basis, without regard to the real and ever-changing conditions of the business world, the same difficulties that now puzzle traffic managers, vex merchants, and assail railroad commissions and courts, will be present as surely and as potently under public service as under private ownership.

But to the mercantile community the transfer of ownership would be a change fraught with unending and incalculable mischief. If there is one desideratum for the shipping community and the world of trade, it is a system of freight rates that shall be flexible and adaptable to the thousand and one varying conditions of business. We have lately heard so much about "stability of rates" and "maintenance of the published tariffs"—necessary and proper as these are—that we have almost forgotten that flexibility is as essential as uniformity. It is the glory as well as the weakness of our transportation system that it is peculiarly American, truly a plant of native growth, and that it has, on the whole, adapted itself marvelously well to the development and unprecedented expansion of our country. This has resulted from a remarkable power of adjustment to local needs in a land where growth and change have been abnormally rapid. New communities have received transportation facilities at times when there has not been enough business to pay the bare cost of the salaries of engineers and conductors. Industrial plants, not only those of overgrown corporations, but new ones in sparsely settled regions, have enjoyed freight rates which have enabled them to land their goods in the first markets of the world. Witness the action of the Great Northern road, ever since its inception, towards the farmers and lumbermen of the northwest. Note the policy of the Southern Railway toward the iron works of Alabama and the cotton mills of the Carolinas and Georgia.

If in place of a management of this kind, at once both sympathetic and self-interested, the merchants had been obliged to meet the stolidity of a government bureau, its circuity of operation, the desire to postpone action till "after election," how different must have been their experience. Or, if they had been forced to deal with Congress, they might have seen the measure succeed in one house or before one committee, only to be indefinitely delayed in the other house or in committee of the whole, or played off against other interests in far-away sections of the country whose represen-

tatives demanded some *quid pro quo* for their support. They would then have realized the profound truth contained in the observation of a great modern historian, that the people's representatives and lawmakers have rarely accorded any great public privilege except under strong pressure.

Under present conditions, the aggrieved merchant may always appeal from the railroad company itself to government aid in some form. State and federal commissions stand ready to adjust rates—sometimes, indeed, with "a strong hand and a multitude of people" —and behind the commissioners are the courts. Everybody is ready and willing to move against a railroad corporation. But let the government once become the supreme monopolistic owner of the mightiest railroad in the world, and how feeble and helpless will be the shipper who pleads before some government department for relief in freight rates, having nothing but the merits of his case to invoke in his behalf.

Thus far I have been insistent only upon the main contention that, in the very nature of the case, there is nothing about government control or government officials that can promise any easy or satisfactory solution of the problems of transportation, and much to suggest the very reverse. But there are many other weighty considerations against government ownership and in favor of government supervision. One of these is the facility for offering secret rebates which must occur under any plan of government-managed railroads. From the earliest times, government officers have been peculiarly open to fraud and malfeasance, and especially so in large and highly centralized governments. Witness Russia and China across the water. Glance at our own history. During the years after the civil war the government at Washington seemed fairly honeycombed with corruption. The Credit Mobilier and the whisky frauds flourished, and Congress actually found it necessary to impeach a cabinet officer for misconduct. The scandals in our municipal governments are too well known to need specific mention; and in very recent years we have seen the discovery of gross frauds in our postoffices, and a shameful waste of millions of dollars voted by the people of New York for improving the Erie Canal. There is nothing about government management that gives the smallest hope that the secret rebate would not be freely used. Indeed, the ease with which favors of this kind could be granted or denied

would place in the hands of the dominant party such a power as is fearful to contemplate. And what reformation is so difficult of accomplishment as the cleansing of a great bureau or department?

There is another excellence which we Americans have thus far enjoyed with which we must part forever if the government is to run our railroads. This is the possibility of reorganizing a bankrupt and unprofitable line by scaling down its debts and charges. This process, drastic and severe as it may be upon a few individuals, has, nevertheless, proved of inestimable benefit to the country at large, and the very salvation of many of our now flourishing companies. It has enabled all parties to wipe off old scores, turn over a new leaf and start afresh; and this reduction of charges has made possible important improvements. But in Germany, where government ownership has long prevailed, much embarrassment has been felt from the inability of government to carry out such a process of reconstruction. The debts of the road once assumed by government remained as a permanent incumbrance, and have never been discharged if the earnings have been insufficient to pay the interest. This is but another illustration of the necessary rigidity and want of elasticity of any system of management proceeding by constitution and statute, it is bound to observe legal rather than commercial requirements, and is dependent on the action of hundreds of lawmakers gathered from the four corners of the land.

I am aware that some enthusiastic advocate of government railroads will insist that I am looking at new conditions through old spectacles. When the government takes hold of the transportation system of the country, there will be no difficulties about freight rates, or bonded indebtedness, or competing lines, or differentials. All these troubles will vanish like the creatures of a bad dream. The government being the sole owner of all the lines, there will, of course, be no competition. The government officials, having no private axe to grind, will act in an enlightened and disinterested manner. The government having unlimited wealth and the ability to raise any sum it needs by taxation, there will be no trouble about remunerative freight rates, or capitalization, or receiverships, or loans. All these matters will settle themselves, or can be left to the "wisdom of Congress." The difficulty about such reasoning is that it draws heavily on the credulity of the American people. For, if the government is to run the railroads, the thinking part of the

community will demand that they be run at a profit, and not at a loss, and that the freight rates shall be lower than—not merely as low as—at present. If this mighty change is to be made, some great, striking and substantial gain must be the result, or the plan is not worth the carrying out.

While the American people have great faith in representative government within lines that have been tried, nevertheless they have seen the legislative branches of their government, state and federal, severely strained of late to transact only such necessary and usual business as has fallen to their lot. In the space of seventeen years, they have lived through the enactment of three tariff acts imposing duties on imports. The passage of these measures has afforded them an opportunity of observing how Congress deals with a complicated measure affecting many rival sections of country and hundreds of hostile interests. They have witnessed the spectacle of a lower house—the "popular" branch of the national legislature—helpless in the hands of a speaker and a committee on rules clothed temporarily with almost despotic powers. They have seen the most deliberate and intelligent legislation emanating from a senate of relatively small membership; but they have also seen the senatorial committees themselves driven almost to desperation by the terrific pressure imposed upon them by irreconcilably conflicting interests working for different ends by means of powerful and effective lobbies. The result has invariably been a compromise—which every lawmaker has realized was imperfect, but which he would dread with almost pathetic timidity to see reopened for discussion and amendment.

The framing of a tariff bill, vast and vexatious as it is, is child's play beside the task of arranging a schedule of freight charges for the multitudinous cities and towns of a country extending over 3,600,000 square miles, and having commercial relations with every nation on the face of the globe. In the presence of such a duty, the most learned legislature that ever convened might well shudder in abject helplessness. From time to time, as certain individual states of our union have created state railroad commissions, they have often provided that the first duty of the new commission should be the preparation of a complete schedule of freight rates for all purely intra-state commerce (*i. e.*, commerce originating and terminating within the limits of the state). Insignificant as this labor is by the side of the making of a schedule of rates for the

nation, it is nevertheless a herculean task, and one that has proved beyond the powers of any set of commissioners that was ever got together to perform intelligently.

Yet, if government ownership is to prevail, the determination of millions of rates for the greatest mercantile nation of the globe must devolve upon some one body of persons, be their number or official designation what it may. Involuntarily we recoil at the bare thought of such unlimited powers inhering in any single body of officials under a government that calls itself free.

But the limits of this article forbid a consideration of the subject in all its details. I have tried to indicate some of the enormous difficulties involved in any system of government control and ownership of the machinery of transportation. But I have only touched upon them, and some I have not even mentioned, as, for example, the immense national debt that must be created in the attempt to purchase billions of dollars worth of railroad property, the vast issue of bonds thereby made necessary, the bitter opposition to even moderate bond issues that has been manifested by a great portion of our people, the jealousy of organized labor toward so vast and irresponsible an employer as the government, the entrance of the railroad workingman's vote into politics as the vote of a distinct faction of officeholders, the vice of a quadrennial change of management and administration at the national capital, and last, but by no means least, the probable change in the temper and tone of the federal government toward both the states and the people when made the repository of such great authority and power.[3]

The true line of progress is that which has grown up naturally in the past generation, since 1870, and along which we have thus far traveled safely, if not brilliantly. It is the policy to which President Roosevelt has pledged himself, which Congress has embodied in a statute, and which more than thirty states of our union have actually tried by means of railroad commissions. It is a policy of regulation and supervision to be sharply distinguished from that of ownership, just as we have long had a government supervision, both state and federal, over banks, without participation on the part of the government in the actual business of banking. It has

[3]No attempt has been made in this article to enter into the constitutional question of the power of the federal government to acquire railroad property and engage in the business of transportation.

not, of course, secured perfect results, nor given universal satisfaction. Very few institutions in this world have, not even trial by jury, which is probably enshrined as strongly as any purely political institution can be in the hearts of the Anglo-Saxon race. In our new rate law, we have gone to the very verge of safety in the experiment of government regulation; and common prudence demands that we give the new machinery a chance to show the kind of work it can do before we attempt further alterations. Perhaps the most serious charge against government supervision of railroads thus far is that its machinery is cumbersome and its operations slow. But it has combined the inestimable advantages of individual freedom and enterprise, coupled with responsibility and amenability to law. Whoever imagines that any system of governmental operation will be free from the defects of cumbersomeness and tardiness must be singularly guileless and unacquainted with the transaction of government business.

Should the time ever arrive when the American people will be willing to deprive themselves of such an immense field of individual effort as is now afforded by the business of transportation, it will indicate that they have materially lessened their faith in man, and have forgotten the truth embodied in the observation of Chancellor Zabriskie, of New Jersey, that "The security and continuance of a free and just government is more important than its extension or its power."

COMMUNICATION

SHOULD PUBLIC FRANCHISES BE TREATED AS CORPORATE PROPERTY?

By Arthur W. Spencer, Brookline, Mass.

Though widely accepted, the familiar theory that a public franchise granted to a corporation has the character of private property is open to serious objections. Franchises are taxed as private property where public service corporations are subjected to state control of even the simplest form. At the same time, the revenue which is thus secured, being offset by certain corporate burdens thrown upon the public, is less advantageous than might at first sight appear.

A special franchise is of its nature a grant of a public right to a private individual or corporation. Commonly it is a right to the use of streets, highways, and public places for the purposes of lighting, transportation, water supply, and other public utilities. It usually happens that the right granted is practically, if not theoretically, exclusive—that is, the corporation to which it is given will not be disturbed in the exercise of the privilege by a competitor. A special franchise is thus to a certain extent a license to engage in some form of monopoly, and it commonly implies an unusually favorable opportunity for commercial gain. The value of this commercial privilege may be readily expressed in figures, by a computation showing the amount of capital which would be necessary in ordinary safe investments to produce the same income. Of course it is only proper that if such a right is to be conferred upon any private corporation the public should be liberally compensated therefor, by taxation or otherwise.

It is easily to be perceived, however, that the commercial value of the franchise is derived mainly from the principle of monopoly, for without monopoly the mere exercise of the privilege to use the streets for a definite purpose would be subject to the risks and uncertainties of ordinary competitive trade, and those engaged in it would in many cases derive no profit from the franchise at all, over and above the profit on the money actually invested. The award of franchises under a competitive policy is, of course, open to grave objections. It is here referred to merely for an illustration. Let us suppose, for example, that a city were to bestow the right to use its streets upon a number of street railway companies operating in close competition within a restricted territory. It is easy to see that if by careful management each of these companies was able to pay fair dividends on the capital actually invested in tangible property, it would be doing exceedingly well. There could be scarcely any opportunity, under close competition, for any profits in excess of a reasonable return on the actual investment. The franchises granted these companies, therefore, assuming that the city

has not made them pay for them, represent no commercial privilege which has a money value; they are public rights pure and simple, juridical rather than economic in their character, and though they have been assigned to private parties they still retain more of the nature of public privilege than of private property. The commercial value cannot come in until the granting of franchises is attended with concession of special opportunities for gain. The grant of a right of monopoly has a pecuniary value which is by no means commensurate with the value of the intangible public right. The latter, in fact, is immeasurable as regards value, and is in itself devoid of a commercial aspect.

It is not solely from the monopoly, however, that the money value of a public franchise is derived. A franchise is very often a permit to practice legalized forms of extortion from the public. Among gas and street railway companies, dividends of seven and eight per cent are the usual thing, and some pay even more on their capital stock. Numerous forms of stock-watering are devised to swell the profits of the corporation at the expense of the public. Not only are earning capacity and surplus capitalized, but stock is issued for debts improperly contracted, for accumulated and sometimes superannuated property which is of no use for the public service in question, and for duplications of plant which the corporation formed by consolidation proposes to continue rather than eliminate. Not only is the capital stock swollen to needlessly large proportions, imposing a serious burden of exorbitant dividends upon the public, but improvements which might bring about an improvement of service or a reduction of prices are neglected. Public opinion meekly tolerates all this, and even in conservative Massachusetts, where the checks on stock-watering are stronger than in any other state, a corporation like the Boston Consolidated Gas Company was permitted to capitalize a debt of $6,000,000 without being called upon to show for what purposes this indebtedness was contracted. The prevalent attitude both of the public and of legislatures regards public service corporations not as companies organized for the express purpose of financing and carrying along public utilities on such terms as the state may direct, but as ordinary commercial enterprises enjoying the right to wrest all the profit the law will allow from their customers. The usual view, in fact, is that public service corporations are privileged, like all commercial enterprises, to employ distinctly mercenary methods and seek to secure large profits, rather than that they are safeguarded investments under the tutelage of the state from which predatory methods should be rigidly excluded by statute. In accordance with the prevailing view, the license to engage in a spoliation of the public must of necessity possess great commercial value. The misconception which disregards the nature of a public right, treats it as a business asset, and exploits it to the injury of the public, is thus another cause which co-operates with the concession of monopoly to give to public franchises an enormous money value.

If this way of treating a franchise as a business asset did not result in extortion it would be a very different matter. As a matter of fact, however, the practical results are pernicious. The corporation which regards its fran-

chise as an asset will, of course, seek to derive advantages from it, and such advantages are close at hand and may readily be turned to account. Unless rendered impossible by state regulation, the most natural step is the capitalization of the franchise, which fastens a heavy burden upon the public. As a franchise has scarcely any fixed commercial value independent of the astuteness of the corporation, the valuation determined for the franchise can hardly fail to be excessive. But if statutory restriction renders the capitalization of the franchise impossible, the corporation will still endeavor to obtain the benefits attending its permit to engage in commercial exploitation, and will have recourse to the many other possible methods of stock-watering which present themselves as possible alternatives to franchise capitalization. Of course if the public treats the franchise as a bonanza the corporations will.

The cases in which a city exacts compensation for the franchise, in the form of a sale or lease on good terms, may seem to contradict the foregoing argument. For if the city exacts a price fully covering the value of the concession, one might suppose that the result would be the same as if there had been no concession. But the objection to such cases is that the corporation will naturally seek to obtain profits far in excess of the amount to be paid the city for the franchise. If the transaction is a sale, a large amount of stock will be issued, and by a swollen capitalization the chance for concealed profits becomes highly advantageous to the purchasing company. Or if the franchise is disposed of on a lease, the corporation will find a way to pay the lease and at the same time convert it into a source of profit. It is not to be expected that corporations will treat franchises for which they are compelled to pay large sums as anything else than property subject to the ordinary laws of traffic and as the source of increased income. The lack of enforced publicity in the accounts of the public service corporations, which is a serious want, is especially favorable to the practice of methods which compel the public to pay more, in the prices of utilities, than the corporation pays the city for the franchise.

So generally is the practice of the alienation of public rights for purposes of private gain tolerated, that it is difficult, perhaps, for the reader to see just what its abandonment would entail. The reform, however, is simple enough in principle. Treat a franchise as a grant of a public right as before, but a grant which does not destroy the character of the public right by transmuting it into a commercial concession. Give it to the public service corporation, without exacting compensation in return, and do not permit it to be capitalized. Treat the franchise thus disposed of, not as an absolute monopoly which the constitutional safeguards against impairment of contract compels the state to protect, but as a monopoly continuing only during good behavior, terminable at will for good cause. Above all, by state regulation of capitalization and enforced publicity of accounts, prevent the corporation from treating its franchise as a source of profit. Let it earn fair dividends on the capital actually invested for the public good—dividends based on the market rate for funds for investments possessing the same low degree of risk—and restrict its net profits to such dividends, after the expenses of construction and depreciation have been provided for. The enforcement of such a pro-

gramme as this would render it impossible for a franchise to become a source of income, as a franchise.

Obviously if a franchise is not to be dealt with as a business asset and is prevented by stringent regulation from becoming a source of profit, it cannot be just to levy a tax upon it. It is not private property, for the reason that it has no economic character as an income-producing entity, and it therefore should not be taxed as private property. As a matter of fact the adoption of this principle, while it would work much harm under the prevailing lax conditions of regulation, would not be injurious to the state under a system of strict control. Franchise taxation has its function to fulfil as a check on corporate aggression, and as a means of replenishing the public coffers with a portion of the treasure extorted from the customers of the corporations; but so soon as proper control is established, the need of such a restrictive measure is removed, and the property subject to such taxation is taken away, for the reason that taxes should not be levied on property which the law would declare is to be used for the benefit of the public and not of private individuals. There seems to be the rub—if franchises had always been treated as public rights, even after assignment to private individuals, the interest of the public in them would have been constantly perceived, and the vexatious confusion of public service corporations with private ones, from which the present age suffers, would never have come about.

The custom of taxing public franchises which is so generally adopted, and the decisions of our highest courts sustaining the practice, are by no means criticised in this paper. It is believed, on the contrary, that with matters as they now are, it is better that franchises should be taxed, and in many states they are not taxed as severely as they ought to be. This practice, however, seems to the writer to find its justification in the existing régime of confused public rights and private privileges. As soon as order is brought out of chaos by careful and accurate delimitation of the powers and duties of public service corporations, and a system of more stringent control is set up, the disadvantages of treating franchises as sources of gain and subjects of bargain and sale will be realized, and it will be seen that if the public interest is to be safeguarded, public rights must always be retained under public control, and likewise the individuals or corporations permitted the use of such rights for special purposes.

The ideal manner in which public franchises should be appraised has given rise to so much difference of opinion among economists that we can never be certain, whatever measures are adopted, that their value is not underestimated and the corporation is not presented with a bonus which robs the public. It may be doubted whether this problem of valuation can ever be settled to the satisfaction of any considerable number of intelligent citizens. The retention of franchises as public rights thus holds out the prospect of more effective control than could otherwise be secured.

The chief factor in the movement toward municipal ownership of public utilities is the absence of adequate government control of public service corporations. It is believed that the treatment of franchises as private property increases the temptation to embark in municipal ownership ventures,

It certainly is favorable to overcapitalization; moreover, as we have seen, adequate compensation for the franchise is hardly to be looked for. The treatment of franchises as public rights subjecting the grantees of the use of those rights, on the contrary, to certain rights and duties, might solve the problem for many of our cities which are vacillating between private and municipal ownership. What our cities greatly require is a system in which the advantages of private ownership and public control shall if possible be combined. Inasmuch as capital to be devoted to the public service can readily be secured at fairly low rates, the problem is not really so formidable as it appears, and the treatment of the franchise as public property would seem to furnish all the justification needed for intervention in the affairs of corporations exercising public rights for the public good.

Port Administration and Harbor Facilities

A SYMPOSIUM

New York City.—J. A. Bensel, Commissioner of Docks and Ferries, New York City.

Chicago.—Frederic Rex, Assistant City Statistician, Chicago, Ill.

Philadelphia.—Ward W. Pierson, University of Pennsylvania.

Boston.—Charles H. Swan, Boston, Mass.

Buffalo.—F. Howard Mason, Secretary of Chamber of Commerce, Buffalo, N. Y.

New Orleans.—James J. McLoughlin, New Orleans, La.

Detroit.—Delos F. Wilcox, Ph.D., Secretary of Municipal League, Detroit, Mich.

Washington, D. C.—Daniel E. Garges, Secretary Committee on Wharves, District of Columbia.

Providence.—Frank E. Lakey, Providence, R. I.

Wilmington, Del.—William Coyne and John N. Lawson, Jr., Wilmington.

Duluth.—Alfred McCallum, Duluth, Minn.

Tampa.—J. D. Calhoun, Secretary of Board of Trade, Tampa, Fla.

London, England.—Prof. J. Russell Smith, University of Pennsylvania.

Manchester, England.—Ernest Smith Bradford, University of Pennsylvania.

Hamburg and Bremen, Germany.—S. S. Huebner, University of Pennsylvania.

Barcelona, Spain.—Chester Lloyd Jones, University of Pennsylvania.

Antwerp, Belgium.—Henry Ralph Ringe, Philadelphia.

NEW YORK CITY

By J. A. Bensel, Commissioner of Docks and Ferries, New York City.

The character and extent of the shipping which enters and leaves New York is very diverse in its character and comprises practically all the trades from that of a small fishing boat to the largest transatlantic liner. The total foreign commerce of the port for the year 1906 was $1,460,812,356 in value, while the total of all ports of the United States was $3,215,533,870.

The harbor of Greater New York comprises an extent of about 450 miles of water front of such a character as to provide safe accommodations for vessels of all classes, and docks of such water depth as to allow the unload-

ing directly from the ship to the dock and *vice versa* without trouble, so far as weather conditions are concerned. The extent of the harbor above referred to includes the Boroughs of Brooklyn, Queens, Manhattan, the Bronx and Staten Island (or the Borough of Richmond) which, in length of waterfront, might be specified as follows: Manhattan, 40 miles; Bronx, 105 miles; Brooklyn, 132 miles; Queens, 116 miles; Richmond, 51 miles.

But only 125 miles of water front is available for ocean traffic.

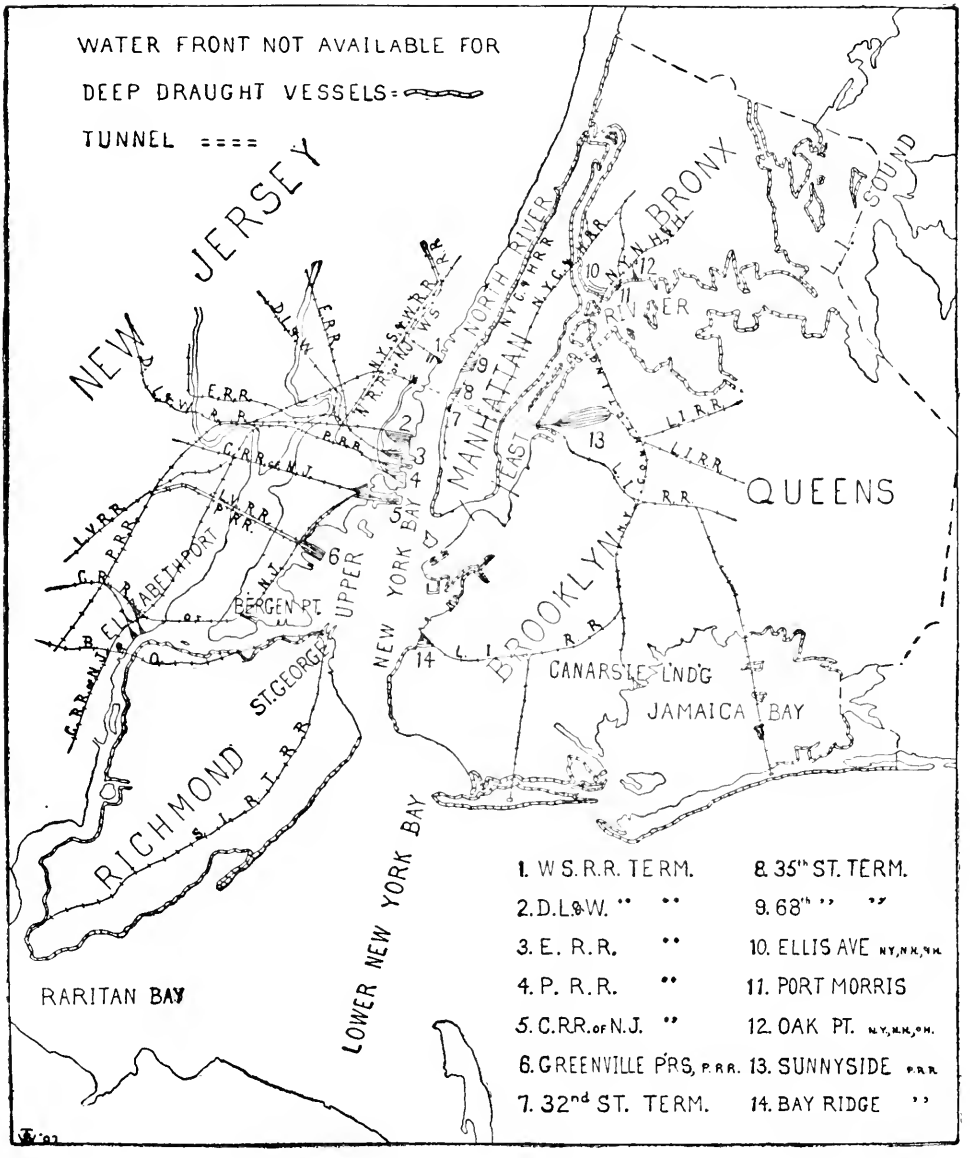
	Manhatten Miles	Pronx Miles	Brooklyn Miles	Queens Miles	Richmond Miles	Totals Miles
Available for Ocean Traffic	7.50	..	101.10	13.25	3.25	125.10
Not available for Ocean Traffic.	32.40	105.60	31.20	102.75	47.75	319.70
Used by Railroads	2.22	1.80	0.08	0.63	0.60	5.33
Used by Foreign Steamships...	1.31	..	2.15	..	0.15	3.61
Used by Domestic Steamships..	0.96	..	2.00	..	0.15	3.11
Used for General and Miscellaneous Wharfage	7.83	2.51	20.14	11.20	5.60	47.28
Reserved for Parks	7.01	11.34	2.65	..	..	23.00
Reserved for U. S. Government	0.04	..	2.17	..	0.80	3.01
Total.....	39.90	105.60	132.30	116.00	51.00	444.80

For transatlantic shipping, the facilities are available along nearly the whole extent of the westerly side of Manhattan Island, a portion of the southerly side below the Brooklyn Bridge, and a portion of the Borough of Brooklyn extending for about five miles south of the Brooklyn Bridge.

In these locations, the nature of the shore and harbor is such as to allow for docking the largest vessels at present built. At other sections of the waterfront of Greater New York the conditions are such as to allow considerable use of the waterfront for railroad purposes, and for boats plying on the rivers and canals, and, in connection therewith, the local uses, such as transporting supplies, building material, grain, feed, etc. A considerable portion of the waterfront is also at present laid out as a park system, which is principally that reaching from the northly end to the center of the western shore of Manhattan Island, and a portion of the Borough of the Bronx.

At the present writing the city owns almost all the waterfront in the Borough of Manhattan, with a small ownership in the Borough of Brooklyn and in the Borough of the Bronx, and practically no ownership in the Borough of Richmond. The Borough of Richmond, although of large extent in waterfront, has only a small portion which is available at present for commercial development on account of the exposed condition of large portions of the shore along the southerly and easterly sides of the Island, and the hampering conditions to the size of piers which could be built, and the intensity of the current along what is known as the "Kill" side, that is, the northerly and westerly sides of the Island.

Manhattan Island is practically all developed for commercial use. Outside of the Jamaica Bay district, which is now being examined, the Borough


WATER FRONT NOT AVAILABLE FOR
DEEP DRAUGHT VESSELS
TUNNEL
NEW JERSEY
BRONX
L. I. SOUND
HARLEM RIVER
MANHATTAN
EAST RIVER
QUEENS
BROOKLYN
NEW YORK BAY
UPPER
BERGEN PT.
ELIZABETHPORT
CANARSIE LNDG
JAMAICA BAY
RICHMOND
ST. GEORGE
LOWER NEW YORK BAY
RARITAN BAY
1. W.S.R.R. TERM.
2. D.L.&W. " "
3. E. R.R. "
4. P. R.R. "
5. C.R.R. OF N.J. "
6. GREENVILLE PRS, P.R.R.
7. 32nd ST. TERM.
8. 35th ST. TERM.
9. 68th " "
10. ELLIS AVE N.Y.,N.H.,H.R.
11. PORT MORRIS
12. OAK PT. N.Y.,N.H.,H.R.
13. SUNNYSIDE P.R.R.
14. BAY RIDGE "

of Brooklyn has one-third of its waterfront available for commercial use. About one-half of the waterfront of the Borough of Queens is available while the Bronx is developed only to a small extent. The Borough of Richmond is developed to the extent of about one-third of its total length of waterfront.

Organized in 1870, the Department of Docks and Ferries has operated for the condemnation and improvement of the waterfront, starting first on Manhattan Island. Since the establishment of Greater New York, it has operated over the whole of the Greater City. The purpose of organization is the condemnation and use for the municipality of the waterfront, now to a great extent (except on Manhattan Island) held in private hands. The state at the present time has an ownership in the lands under the water lying outshore of the waterfront itself to some extent in the boroughs of Richmond, Brooklyn and Queens, the state having, in the boroughs of Manhattan and the Bronx, made over its ownership in the lands under water to the city about 1876.

The management of this water front is vested by law in the Commissioner of Docks, who holds office at the pleasure of the Mayor. The Commissioner has general jurisdiction and power of government, but he cannot lease property except with the approvel of the Sinking Fund Commission.

The operation of municipal ferries which is now being taken up, is an addition to the previous duties of the Commissioner of Docks, and at the present time the city is operating, through the Dock Commissioner, the ferry from the foot of Whitehall Street, Manhattan, to Thirty-ninth Street, Brooklyn, and from the foot of Whitehall Street to St. George, Staten Island.

The officers who directly control the waterfront in so far as the berthing of vessels is concerned, are known as dockmasters, having practically all the powers formerly vested in the state harbormasters in the administration and direct government of the waterfront. These dockmasters are appointed through the civil service by the Commissioner of Docks.

The income of the department at present amounts to about $4,000,000 a year, the larger portion of it being from property leased to individuals, corporations and companies occupying the city's piers and bulkheads. All funds received by the Dock Department go to the sinking fund for the redemption of the city debt.

The expenditures of the department are provided for from bond issues amounting to not over $5,000,000 per year, except by the concurrent resolution of the Board of Estimate and Apportionment and the Board of Aldermen.

CHICAGO

By Frederic Rex, Assistant City Statistician, Chicago, Ill.

The harbor of Chicago consists of the Chicago and Calumet rivers, with their branches, forks and slips, the drainage canal and the waters of Lake Michigan for a distance of three miles from the shore between the north and south boundary lines of the city.

To say that Chicago's harbor is its extended lake front is a misnomer, save for an "outer" or "Chicago Harbor," which, by the construction of a series of sheltering breakwaters, facilitates approach to the Chicago river. On good authority it has been argued that the city's harbor should have been created in the lake, yet the fact remains that by a direct inversion of the fitness of things commerce has overlooked its opportunity and found and made the harbor of the city in the Chicago and Calumet rivers.

The Chicago River, which, with the Calumet, constitutes the inner and actual harbor of the city, one mile from its mouth bifurcates, forming its north and south branches, the length of the main stream and its branches being about sixteen miles. Originally a stagnant stream with but little flow and having a maximum depth of 16 to 18 feet, with a variable width, it has been slightly widened in its narrowest parts by the federal government and systematically widened in its south branch by the Chicago sanitary district, rendering it navigable by vessels of 20 feet draft entering from the lake for the full length of the main river with the exception of a tunnel obstruction three-quarters of a mile from its mouth which limits safe navigation to a depth of sixteen feet.

The south branch, which has been widened and deepened by the sanitary district at an expense of over $2,000,000, has a navigable depth of twenty feet for a distance of six miles, with the exception of two tunnel obstructions, which similarly restrict navigation. Inasmuch as the tunnels were by act of Congress declared "unreasonable obstructions to navigation" the Secretary of War last year ordered them removed or lowered so that there shall be a clear depth of twenty-two feet over them at low water. The work of lowering is now in progress, with an assurance of its completion before the beginning of this year's navigation season.

The south branch, being the main artery pulsating with the city's commercial activity, six miles south of its junction, connects with the sanitary and ship canals, which in turn joins the Des Plaines River twenty-eight miles distant and thence carries the water of Lake Michigan through the Illinois River into the Mississippi. Having a width varying from 160 to 290 feet and a depth of 22 feet, its value as an aid to the city's commerce will be most felt after an estimated outlay by the government of approximately $70,000,000 on a deep waterway project, entailing extensive improvements along the rivers connecting Chicago with the Gulf of Mexico. The north branch of the Chicago river is navigable by sixteen feet draft vessels for about six miles.

It has been the aim to secure a uniform width of 200 feet in the main river and its south branch, and a clear navigable width of 140 feet through the draws of all bridges. It seems probable that this improvement will be completed within the next two years.

The Calumet river, about ten miles south of the mouth of the Chicago river and its active rival for the city's trade, has been described by Major Marshall, government engineer and a competent witness, as the "finest harbor on Lake Michigan." Of humble beginnings and used by small draft vessels only, it has by virtue of government favor been made navigable for

the largest draft vessels on the Great Lakes, having a depth of twenty-two feet and a variable width of from 200 to 300 feet.

The waterfront of the Chicago River is irregular, there being no clear delimitation of dock lines. Business firms have constructed docks jutting from one to six feet into the river beyond the line of neighboring docks, such construction either being due to intentional encroachments or unrestricted assertion of riparian rights. On the Calumet River, although no dock lines have been established by the city authorities, the federal government has established a uniform channel beyond which it has refused permits for docks. Center pier bridges still detract from the appearance of the harbor front, but it has been the tendency of the sanitary district to supplant them with improved bascule, or rolling lift bridges, as fast as time and money will permit. The possibilities of Chicago's lake shore have often excited the speculation of the visiting traveler, and justly so. However, as the title to the submerged lands under Lake Michigan is in the State of Illinois, the city itself is unable to prevent aggressions upon the same by private parties. Valuable acres of "made" land along our lake shore are to-day possessed by individuals and corporations because the city could not assert its rights and the state was passive.

Shipping activity in the port of Chicago has been practically at a standstill for the past ten years, and while easily accounted for, presents some interesting facts showing the gradual transition from the construction of freight-carrying vessels on the Great Lakes, having a draft below sixteen feet to great steel steamers having an average draft of twenty feet. In 1890 the tonnage of 18,472 vessels entering into and clearing from the Chicago River was 8,774,156, having an average cargo of 475 tons, while 1,661 vessels arriving in and clearing from the Calumet River had a total tonnage of 1,341,895, or an average of 808 tons. The difference is apparent when the carrying trade of the two rivers is compared for 1906. 11,050 vessels discharging and reloading cargo in the Chicago River last year had an average cargo of 858 tons while the 1,947 vessels in the Calumet had an average cargo of 2,776 tons. In 1889 less than ten per cent of the total tonnage of the port of Chicago entered and cleared from the Calumet, while in 1906, with barely one-sixth of the number of vessels entering and clearing from the Chicago River, it had a little over one-half the tonnage. This condition of affairs would appear anomalous but for the fact that the vessels entering the Chicago River are, and must necessarily be, vessels of small draft, and consequently small tonnage, owing to the presence in the river of three tunnels, which, although as before stated, in process of being lowered, have limited safe navigation in the river to a draft of about sixteen feet. To show how much the trade of Chicago has suffered and the proximate cause of such loss one may quote from Hon. O. H. Ernst, of the United States Corps of Engineers, who says in a report made to the Chief of Engineers, May 26, 1904: "It seems to me evident that the trade of the Chicago River was bound to decline when the stream ceased to have the capacity necessary to accommodate the large modern freight carriers. Obstructions in the river, such as encroaching docks, center pier bridges and tunnels become more and more serious as the size of vessels

increases. They have now reached the stage where the largest and most economical freight carriers cannot use the Chicago River at all except near its mouth. Such vessels draw about twenty feet. The depth of water over the tunnels is about seventeen feet in two cases and about eighteen in the third, which limits safe navigation to a draft of about sixteen feet. Large vessels may with difficulty get by the other obstructions just mentioned but they cannot get over the tunnels. The tunnels are the most serious obstructions in the river and must, I think, be charged with the greater part of the loss of trade. It is certainly useless to hope for its restoration before they are altered. It is more probable that the decay of the river traffic will continue until that is done, notwithstanding that the other obstructions—center pier bridges and encroaching docks—are being systematically removed by the trustees of the sanitary district. If the extent of the injury could be measured in money, the amount would undoubtedly be stated in millions."

As an example of how great an "old man of the sea" the tunnels have been to the Chicago River it may be instanced that often shippers of grain have bid two and one-half cents per bushel freight to Buffalo, notwithstanding that at Milwaukee and in the Calumet River there was a surplus of vessels at one and three-quarter cents, merely because the large steel freighters, plentiful at Milwaukee and South Chicago, could not gain entrance into the Chicago River to take cargo. In addition the smaller boats are rapidly being forced from the Great Lakes, generally being old and unseaworthy, carrying increased rates of insurance, and it has been predicted that within the next two or three years there will scarcely be five per cent of the ships on the lakes able to take a full cargo out of the Chicago River. Nevertheless its commerce during the past year amounted to 10,000,580 tons, the principal items being grain, lumber, coal and salt, while that of the Calumet River was 5,404,620 tons, principally iron ore, grain and coal. Because of its accessibility to great freighters its trade is constantly increasing and new manufacturing plants are steadily occupying the river banks as fast as the twenty-foot depths are carried upstream. This sub-port of the city is a great factor in controlling freight rates, effecting a saving of at least fifty cents per ton over the Chicago River rates and considerably more over the current South Chicago railroad rates. As soon as the obstructions which now impede the progress of the Chicago River shall have been removed and the stream placed on an equal footing with the deep and broad Calumet, then the port of Chicago will in a very short time surpass the water-carrying trade of New York. It even now, although greatly handicapped, nearly equals the commerce of that port.

The facilities provide for the handling of cargoes are naturally greatly dependent on individual or corporate initiative and enterprise. On most docks improved machinery and methods of handling cargoes are used. Cargoes of 100,000 bushels of grain are loaded within five hours and unloaded in six hours. In one instance, it is stated, that a cargo of 100,000 bushels of grain was unloaded with a loss of but two bushels. It takes but three hours to load a cargo of 5,000 tons of ore. Coal drops from the car-dumping machines or conveyancers into the holds of vessels, which three hours after tying up at the dock

are ready to sail with a cargo of from 3,000 to 5,000 tons. The economic handling of freight has attained a high state of perfection.

The only property along the Chicago and Calumet rivers which may be described as public property are the street stub ends along the river front belonging to the city, some 2,500 feet of dock constructed by the Chicago sanitary district on the south branch of the Chicago River, and the entire fifty miles of dock frontage along the sanitary and ship canal. The large number of other docks along these rivers are owned by private parties, there being approximately forty-five miles of private dock on the Chicago River and ten miles on the Calumet.

To enable the city authorities to handle the dock question satisfactorily in the future, the Rivers and Harbors Committee of the Chicago Charter Convention in 1906 submitted to the latter a bill authorizing municipalities to own, construct and operate "docks, wharves, elevators and warehouses" as well as "railroad tracks and machines" to operate the same, with the right to issue bonds for their acquisition and maintenance, with the recommendation that the charter convention memorialize the State Legislature for its passage.

Representative Kittleman, in speaking on the committee's recommendation, said: "I say frankly, with reference to the matter before us, that there is nothing in the charter convention that means more to the city commercially than the establishment of docks in a great harbor. If there is no other way of getting it then I would be in favor of the city owning, establishing and controlling these docks, so that Chicago would become what it ought to be, one of the greatest markets in the world." Mr. Joseph Medill Patterson, until recently Commissioner of Public Works of Chicago, one of the chief proponents of such municipal docks, states that the same, if constructed, could be leased for enough to pay the interest on the bonds and to create a sinking fund for the extinguishment of the original investment. Such a plan could not be considered radical. It would be merely applying historic bourgeois craftiness to a state of affairs where the community could engage in an enterprise to better advantage than a private individual. The realization of profits is not the chief end of a system of municipal docks. Save that it should not become a burden to the city its purpose ought to be the development of the business and prosperity of the port.

The harbor officials of the port of Chicago consist of a harbor engineer, who holds office under the civil service law, a harbor master, vessel dispatcher and numerous bridge tenders, who are appointed by the Mayor by and with the consent of the City Council. There are also a large number of assistants to these officials, a number of whom are civil service appointees, while others are exempt from the operations of the law. These officials, by the provisions of the city ordinances, have a jurisdictional supervision over the water area of the Chicago Harbor. They are required to keep the docks, bridges and other property belonging to the city free from damage; maintain a record of the movement of all vessels navigating the harbor; regulate the opening and closing of the bridges for the passage of vessels; provide vessel signals; report upon the safe or unsafe condition of private wharves and docks and require all private parties to secure permits for the construction

of the same; prevent all encroachments on harbor lines and remove all obstructions from the river.

The administrative work of the city's harbor officials is hampered and retarded in usefulness by the straightened conditions of the city's finances. While in New York the Department of Docks has floating property valued at about half a million dollars, consisting of derrick boats, steam tugs, steam and naphtha launches and the like, the harbor master and engineer of Chicago find themselves without even a moderately fast dispatch boat for inspecting and patroling the harbor. It has been said that the Chicago harbor engineer, on a voyage of inspection, is expected to cruise about in a row boat among the ore-carrying monsters of the steel fleet in the waters of the Calumet. The doctrine of *laissez faire* certainly has had a liberal application in our western city, it having been well-directed policy on the part of special interests to keep its waters as free from restrictions and interference as the complaisance of municipal officials and the community would permit.

There are no wharfage charges fixed by city ordinance nor are any levied by the city harbor officials. The only revenue derived by the city along its lake and rivers is from rentals paid by private concerns for the use of street stub ends abutting the same. Formerly the revenue obtained from these stub ends was not very substantial or satisfactory, nearly always resulting in a loss to the public treasury. It has, however, been the policy of the present administration to exact compensation for all private uses of public property, and during 1906 nearly $15,000.00 were realized from the rental of these stub ends. The amount expended in 1905 for dock and street stub end renewals was $20,000, the sum received from rentals being slightly less than in 1906. Clearly the city in 1905 lost money from this source, but then it should be remembered that it is put to the expense of maintaining a large number of street stubs which it does not rent or use. The Chicago Sanitary District has come into possession of 2,500 feet of dock along the south branch whose value this year will be $29,053.24, based upon proposals for leases now before its officials. The district recently has called for bids for leases on its sanitary and ship canal, it being the anticipation of its officials to secure a net return of $500,000 from this source annually, within the next two years, with an eventual aggregate maximum income of $1,500,000 per year.

In conclusion, our local rivers, aside from being utilized merely as highways of water transportation should, similarly to European cities, exhibit a water front to which the denizen may point as the most ornamental section of his city. Chicago still is making great forward strides in population and wealth. Surely it is but the part of wisdom, of comprehensive, expansive municipal statesmanship to devise plans of improving its rivers and lake, to build not for the day or the morrow, but for posterity. Let the experience of the great cities of the old world be its example. The improvements, which, if made, would cost the present generation comparatively a trifle, will, if delayed, cause the next the expenditure of vast sums. Where, to-day, our river front displays decaying wooden docks and wooden warehouses stand-

ing on the water's edge, the future may bid us hope to find a spacious stream, nowhere less than 250 feet in width, bordered by straight and regular concrete or stone docks, with bascule bridges sweeping across its full width. Turning aside from this comprehensive scheme of improvement to matters lying nearer our own hands, a complete survey of the lake shore and rivers should be made by competent engineers, and after a concurrent conference between the sanitary district, federal government and city authorities, an inclusive and harmonious plan of dock lines be reported and embodied in an ordinance to be passed by the City Council. Because of the city's close interest in the contiguous submerged lands in Lake Michigan and it being a matter which concerns the municipality solely, the State Legislature should be requested to vest its present title to the same in the City of Chicago. This will enable the city to deal with a problem which, under the ownership of the submerged lands by the state has enabled private parties to surreptitiously divest the city of considerable portion of its splendid lake front.

The authorization of the city by the State Legislature to own and operate municipal docks would enhance the prosperity and business of the port to an extent beyond belief. Where to-day the private docks are numerous, ill-constructed and without co-operation, municipal docks here, as in New York, would not only offer a uniform plan for the advancement of commerce but provide good, substantial and cheap places for the handling of cargoes.

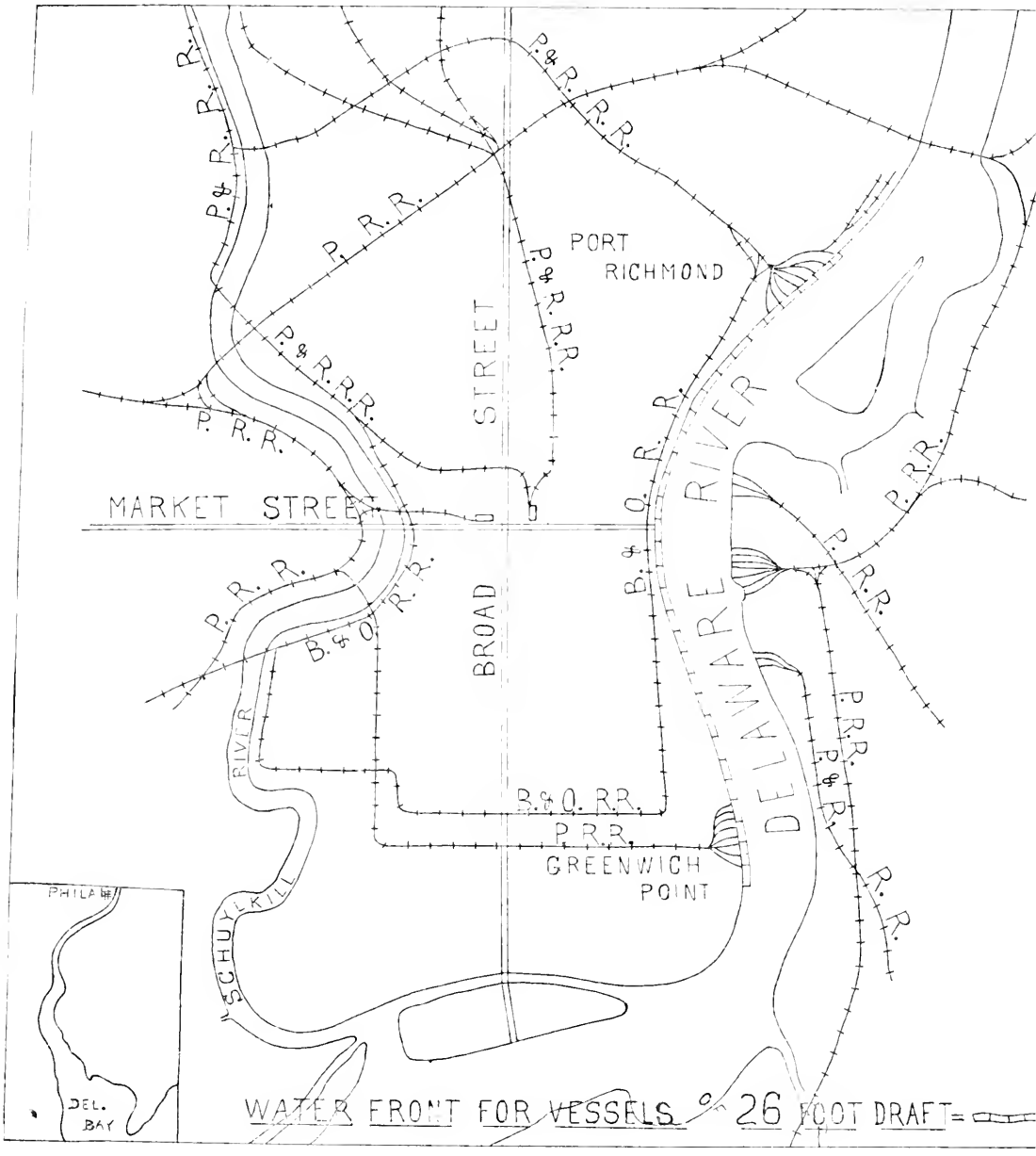
With the removal of the river tunnels and center pier bridges, the dredging of the river to a regular depth of twenty-six feet and width of 200 feet or more, as well as using the Chicago River as the connecting link in deep waterway communication via the Chicago sanitary and ship canal and the Illinois and Mississippi rivers to the Gulf, the port of Chicago will not only be the chief factor in the trade of the Great Lakes but bids fair to become a seaport of the first magnitude and the great central market of our continent.

PHILADELPHIA

By Ward W. Pierson, University of Pennsylvania.

As the third most populous city in the United States, Philadelphia should be one of the leaders in American trade and enterprise, yet her foreign import and export trade last year amounted to only $160,000,000, barely ten per cent of the trade of New York. Baltimore with but little more than one-third the population has a foreign trade of almost an equal amount. It is said that America has four great doorways to the great Atlantic highway, Boston, New York, Philadelphia and Baltimore. Philadelphia may be a doorway, but it is far from being wide open.

There is a general belief that the port of Philadelphia is by nature inferior, and this is often alleged as the reason why the commerce of the port has not increased so rapidly as that of other sea-coast cities. But, on the other hand, Philadelphia, for natural reasons, should be the best port on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PORT RICHMOND
STREET
BROAD
MARKET STREET
B. & O. R. R.
P. R. R.
B. & O. R. R.
P. R. R.
RIVER
SCHUYLKILL
B. & O. R. R.
P. R. R.
GREENWICH POINT
DELAWARE RIVER
P. R. R.
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P. R. R.
PHILA.
DEL. BAY
WATER FRONT FOR VESSELS 26 FOOT DRAFT=

the Atlantic seaboard. Situated well inland, 102 miles from the sea, on a broad, straight river, close to the center of one of America's great farming districts, the foundation for a steady agricultural trade is well laid. In addition to this Philadelphia is a terminus of a great railroad, the Pennsylvania, with 7,000 miles of track spreading out into the middle west and reaching into the very center of the granary of the world. Every important iron manufacturing plant in the iron and steel state is made tributary to Philadelphia by this same railroad. If there was nothing more to be said the foreign export trade of the Quaker City, in grain and iron products should be second to none in the United States. Added to all this, Philadelphia, is the terminus of the greatest of the coal roads—the Reading, which owns and controls the richest of the anthracite coal lands. The manufacturing industries of Philadelphia are more numerous and diversified than those of any other city in this country, with a single exception. Then, too, Philadelphia is ninety miles nearer to Pittsburg—the gateway to the west and its industrial centers—than is New York. It is nearer to Buffalo toward which gravitates all the commerce of the Great Lakes. It is nearer to the great oil fields of Pennsylvania and West Virginia and the terminus of many oil-pipe lines. And, as if all these advantages were not enough, Philadelphia has a further advantage of a differential freight rate over New York; but for some unknown reason the ocean freight rates via Philadelphia are higher than those via New York. With all these advantages, a natural situation unequaled—with natural monopolies without a rival either at home or abroad, Philadelphia, as a commercial city is not even second or third rate, but stands absolutely at the foot of its class.

The policy of Philadelphia is slowly changing, but that policy always has been to adhere closely to the belief that nothing is good unless it has endured for a hundred years or more. This is only too true of the attitude of many, blinded by their own private interests, to the laws which now govern the port. Not four years after the death of George Washington, the famous Port Warden Law of Pennsylvania, in reality little more than a codification of the then existing laws, was passed, and that is the law under which the port of Philadelphia is to-day administered. Laws that were made in days when steam vessels had barely been conceived in the minds of their inventors, and when a voyage across the Atlantic was a question of months, instead of days, these are the laws under which Philadelphia is endeavoring to carry on a trade with foreign nations to-day. Slight changes have been made from time to time in the original act of 1803, but these changes have been always to satisfy private interests, while the interests of the public have been permitted to grow less and less. So far as its administrative features are concerned, there stands the old system—archaic, antiquated, worn out, a monument to the past, a relic of the days of the alien and sedition laws, defying age and time.

That old law to which so much deference has been paid, and to which so little respect is due, save as we respect the dusty mummies of long forgotten ages, placed the administration of the port of Philadelphia in the hands of three authorities, a board of wardens, now eighteen in number; a harbor

master, and a master warden. The president of the board of wardens admits that they have insufficient power to meet present-day conditions. The powers of this board may be summarized briefly as follows: (1) Power to license property owners to build wharves, (2) to settle disputes, (3) to license pilots. This board was intended to be an efficient body, but it has proved to be quite the opposite. The harbor master is only a policeman and hitherto has done mostly as he has been told. The present incumbent of the office, however, is asserting all the powers that remain in this office, but he is acting under laws 104 years old, and as a result he is greatly handicapped in everything he undertakes.

The main fault lies in the fact that the authority is divided and that the officers are generally engaged in trying to do as little as possible. As a result there are to-day twenty city wharves, and there are only a few more owned by the city, at which there are but nine feet of water at low tide. So shallow, in fact, is the water alongside of these piers that the city fireboats could not get close enough to the shore to do efficient service in case of a conflagration. Theoretically, every pier in the city is open for public use; actually, along the entire waterfront there is but one covered pier at which a steamship of any considerable draft with a miscellaneous cargo can unload. The other piers are private or are leased to private parties. If the single pier just referred to happens to be engaged, a tramp steamship that does venture up the Delaware cannot dock unless some private owner will permit her to do so, and then only after the private owner has fixed his own wharfage rates, which the tramp can pay, or get out. If some one should want to open up a new steamship line from Philadelphia, there is not a single pier now from which she could begin her sailing. Some of the wharves are used as dumps and ash heaps; some as railroad yards; others are rotten and decayed and sinking below the surface of the water. There is not a single wharf, public or private, which will accommodate a vessel drawing over twenty-six feet of water, and three-fourths of them will not accommodate vessels of one-half that depth. At every point the interests of the city have been sacrificed to private or corporate interests. The law now in force requires that there shall be a certain distance between piers, but this distance may be departed from by order of the port wardens. Interests not public have been careful to purchase lands on both sides of nearly every street, and on that land to erect, close to the property line, a short pier which may or may not be used, but which, under an act of 1868, vests in that owner for all practical purposes a fee in the wharf. This precludes the city forever, except after condemnation proceedings or purchase, from becoming a competitor at that point because the street is not ordinarily more than wide enough to give the dock space required by law.

To-day the warehouses of Philadelphia are bursting with goods of all sorts and descriptions, waiting for transportation, but these goods must go out over private wharves. The belt line which extends for six miles along the river front was intended to relieve this congestion and aid the independent owners of wharves, and shippers, but, first of all, it was intended to connect the piers with each other and with the storage houses along the waterfront, so that transfers from one to the other could be made with

minimum cost and with minimum loss of time. Under present conditions the shipper can neither go upon a wharf unless he is owner or lessee, nor can a tramp vessel come alongside. If one wishes to send goods into or out of Philadelphia, he must do so by way of an established line, or consign them by way of some railroad.

At present Philadelphia possesses about eight miles of available water frontage on the Delaware, which extends from Port Richmond, the Reading terminal on the north, to Greenwich Point, the Pennsylvania terminal on the south. There is additional frontage on the Schuylkill, but it is of minor importance. The ownership of the wharves is both public and private; the control of the wharves very nearly private as the following figures will show: Of the eight miles of available water frontage on the Delaware, the City of Philadelphia owns 3,598 feet, the Pennsylvania Railroad Company owns 9,951 feet, the Philadelphia and Reading 9,200 feet, the Baltimore and Ohio 1,923 feet. The balance, 16,787 is controlled by private interests which exercise an almost complete monopoly over their wharves. These figures do not tell all, for of the 3,598 feet which the city controls, 2,196 is leased to private interests leaving 1,402 feet still under the immediate control of the city. Of the portion which is leased, sufficient is in the hands of the Pennsylvania Railroad Company to bring the total frontage under the control of that company up to about 11,000 feet, more than one-quarter of the entire Delaware frontage.

From leases and rentals of wharf property the city receives about $68,000 annually. There are no charges for wharfage and cranage which flow into the city treasury, for there are practically no wharfage facilities whatever. Most of the leases expire between 1912 and 1915, so that if the city should desire to operate its own wharves, it would be impossible for it to do so, for at least five years.

There is practically no expense for maintenance and renewals or new construction because no effort is made upon the part of the city authorities to better the present conditions of the waterfront. At present there is a great effort being made by the members of the commerce organizations of the city, led by the Maritime Exchange, to have a new law passed by the legislature, vesting the authority heretofore residing in the harbor master, master warden and board of port wardens, in a department of the city government. This movement is being opposed by the lumber interests and some of the warehouse interests. All factions, however, are agreed that something must be done, if the port of Philadelphia is to survive.

By 1908 Philadelphia will have a thirty foot channel to the sea at low tide; Congressman Burton has committed himself to the thirty-five foot channel project. The commercial future of Philadelphia is bright, provided it meets the situation squarely and puts its own house in order; but until the harbor facilities are modernized the ocean-carrying trade must remain at a standstill.

BOSTON

By CHARLES H. SWAN, Boston, Mass.

The port of Boston is the natural outlet to the sea for eastern and northern New England and a large section of eastern Canada, particularly during the winter when the navigation of the St. Lawrence River is closed. Passenger steamers leave Boston at frequent intervals for the maritime provinces, for the cities of the Atlantic coast of the United States, for the West Indies, and for Great Britain and Mediterranean ports. Freight ships arrive and depart in large numbers bearing commerce to all parts of the world. Relatively with its position in colonial times Boston is less important as a shipping focus, but actually its trade is of great importance among the ports of the nation. The total value of the export and import trade for 1905 was $200,000,000. Although the population of municipal Boston is only about 600,000, yet the wide area of populous suburbs within easy access gives the business community the commercial position of a city of a million and a half.

The harbor is commodious and is provided with islands and peninsulas with a very extensive waterfront as yet only partially developed. Originally the shores were composed largely of mud flats separating the deep water from the upland, but in the older parts of the city and in East Boston and South Boston much filling and wharfing have been done from time to time until now most of the harbor front within the business section and available for ready transshipment is occupied by almost continuous lines of substantial wharves. These are mostly wooden structures built upon piling and largely covered by great wooden sheds. On many of the large wharves there are good warehouses of brick and stone, mostly dating back for many years, with some new and fine structures. The facilities for handling cargoes are good, but might be greatly improved and doubtless would be if the Canadian business of the city were not hampered by the tariff. There is also much complaint about the difficulty of the entrance channels of the harbor. The largest ships have to wait for the tide.

The ownership of the wharves and the commercial waterfront of Boston is largely in private hands either individual or corporate. This is the outgrowth of gradual development from colonial conditions. In 1647 the Colony passed a celebrated ordinance declaring that private titles to shore property should extend down to low water mark but not in excess of one hundred rods from shore. This has been tested by the courts as a modification of the rule of the English law that shore property was presumed to stop at high water, but there is some reason for believing that it was a restoration of an earlier English practice which had been overthrown by the royal power. It is said that one reason for the colonial ordinance was to stimulate individual enterprise to provide wharfage facilities. At any rate from that time to the present the great bulk of wharfage in Boston and other ports of Massachusetts is in private hands. There are, however, many small public landing places reserved along the shore in scattered spots, and the City of Boston owns some wharf property, but only as isolated parcels and not as

a part of any general municipal development. Practically the city owns no waterfront other than on the parkways.

At South Boston and East Boston the commonwealth controls some of the waterfront, but it is as yet undeveloped. One large pier has been built but it has never been rented and is not shedded, nor has it at present any railway connections. The commonwealth, however, has undertaken a public development in part of the harbor, and has established harbor lines and channels and regulations about filling private flats in tide water. A large section of flats lying north of South Boston was outside of the hundred rod limit of private ownership and was therefore in the full control of the state. This the legislature some years ago directed to be filled and developed under state management and took by eminent domain a large adjoining area of private flats. This has already largely been filled in and laid out with streets and with a proposed deep-water channel for approach. The commonwealth generally retains the title to this land and has leased several parcels to private parties. The scheme is as yet in its infancy, but for the management of these and other lands of the commonwealth throughout the state there is a permanent board of harbor and land commissioners. This board has very extensive powers about filling tide waters, making harbor lines and channels, leasing state lands reclaimed for development and generally in protecting the public lands and navigation rights, but it is not strictly in any sense a board for managing the movement of shipping. Perhaps it would be well to enlarge its powers to cover the whole range of harbor facilities and navigation. So far those topics lie within state jurisdiction, but with the present system of the private ownership of wharves the more probable policy is to look directly to the federal government for such matters as exceed private facilities for management. The current river and harbor bill in Congress carries a liberal appropriation for deepening the channel.

BUFFALO

By F. Howard Mason, Secretary of Chamber of Commerce, Buffalo, N. Y.

Buffalo is the second city in size, population and wealth in the State of New York, and is the eastern terminus of deep-water navigation on the lakes, and western terminus of New York State's famous waterway, the Erie Canal.

The harbor facilities of Buffalo consist of an "Outer Harbor" under the jurisdiction of the federal government, and the "Inner Harbor" under the jurisdiction of the City of Buffalo.

The outer harbor has been created by the federal government by the construction of a breakwater system 25,411 feet in length, or 4.8 miles, the longest breakwater system in the world. The harbor area protected by this breakwater system covers 1,600 acres of which approximately 900 acres have a depth of eighteen feet or more. This is the largest artificial harbor in the world. Total cost of breakwater system $4,500,000.

The inner harbor has been created by the City of Buffalo by the deepening of Buffalo River and the construction of an artificial channel known as the Buffalo Ship Canal. The Buffalo River has been improved for the distance of 2.5 miles, which, with the City Ship Canal of 1.6 miles, provides a total of 4.1 miles of dockage, on which are located elevators, freight houses, warehouses, malt houses, coal and ore docks, iron furnaces, etc. The city has now under construction a project for the further improving of Buffalo River by widening and deepening. This will provide upwards of three miles of additional water frontage.

The following table shows the increase of net registered tonnage arriving and clearing at Buffalo by lake:

Year.	Total No. of vessels arriving and clearing	Total net registered tonnage
1850	8,444	2,744,000 tons
1870	10,625	4,158,000 "
1890	9,762	7,556,413 "
1900	9,073	10,701,222 "
1906	8,557	13,989,517 "

Canal.

Year.	Tons.
1850	500,000
1870	1,873,000
1890	1,001,000
1906	1,756,081

The principal articles received are grain, lumber, iron ore and package freight; total grain receipts for 1906 being 120,307,103 bushels; flour, 10,279,384 barrels; iron ore, 4,723,519 tons; lumber, 194,165,476 feet; shingles, number, 227,436,000. Shipments by lake: coal, 2,681,000 tons; salt, 357,390 barrels; cement, 4,377,460 packages; sugar, 2,481,287 barrels.

The outer harbor at present is largely utilized as a place of refuge and for mooring; the completion of the breakwater system, however, has been followed by the location and erection of the plants of the Lackawanna Steel Company, Buffalo and Susquehanna Furnace Company, and extensive coal and ore docks by the Pennsylvania Railroad; the frontage being controlled largely by railroads, improvements are contemplated for erection of docks and warehouses along waterfront.

Located along the inner harbor are the grain elevators for receiving grain, coal trestles for loading coal, iron ore docks for receiving and storage of iron ore, and furnaces of the Buffalo Union Furnace Company; also warehouses and freight houses for the receiving and loading of package freight.

The docks are owned and controlled by private interests except at the foot of public streets. The harbor is under the control of a harbor master appointed by the Mayor, and the city has been fortunate in having a capable official in this office.

There are no public charges for wharfage.

There is considerable water frontage along the Niagara River in Buffalo, which has not been developed to any great extent by reason of the fact that the rapids at the head of Niagara River prevent the navigation of the stream by deep draft water vessels. The United States Government has approved a plan for the construction of a ship canal and lock around the rapids at the head of Niagara River, and work is now being done upon this improvement, which, when completed, will open up for additional commercial and industrial enterprises approximately twenty miles of water frontage.

NEW ORLEANS

By JAMES J. MCLOUGHLIN, New Orleans, La.

The growth of the port of New Orleans during the past ten years has been marked The natural outlet of the great system of rivers that thread the Mississippi Valley, it of necessity receives an enormous volume of river traffic. But of late years the great railroad systems have wakened to its importance, and are vying with each other in acquiring terminal facilities there, which will link their rail transportation agencies with the rapidly increasing lines of ocean steamships which frequent its magnificent harbor. With a harbor inferior to none, an equable climate, with no snow or ice to hamper the movements of commerce, its great natural advantages are now being exploited by those who realize that we only need the proper loading and unloading facilities to make New Orleans the greatest port in America.

Character and Extent of Shipping Entering and Leaving the Port.—The improvements at the mouth of the Mississippi River, making it possible for vessels drawing thirty feet to enter, have greatly increased the tonnage entering this port. For many years the ocean tonnage has been changing. Instead of a large fleet of sailing vessels coming to this port, there are now entering a larger number of steamers, of which the tonnage is greater, but the number is less.

The extent of the commerce of the port at present, can be best given by the following extract from the report of the Commission, ending August 31, 1906, viz:

"'Sea-going'—The number and tonnage of vessels arriving at the port for the period of this report (year ending August 31, 1906), as is shown in tabulated statement was 1,505 vessels, or a gross tonnage of 3,855,919 tons, of which 3,040,668 tons occupied the public wharves, about seventy-nine per cent of the total. The wharfage earned from these vessels was $209,557.09, an average of six and nine-tenths (.069) cents per ton.

"'River Traffic'—was 1,150 arrivals of steamboats, 59 transportation barges, 716 miscellaneous arrivals, consisting of flats, coal, gravel and stave barges, tugs, etc., and 2,140 arrivals of luggers, and gasoline launches engaged in the oyster, fish and vegetable trade."

This report does not give the outgoing vessels, but the United States Customs reports, which are made up for the year ending December 31, 1906, show the following:—

	Number	Tonnage.
Arrivals:		
Steamers	1,428	2,690,673
Sailing vessels	51	46,455
Clearances:		
Steamers	1,466	2,763,842
Sailing vessels	37	33,662

Nature and Extent of the Harbor.—The harbor of New Orleans comprises both banks of the Mississippi River, for a distance of about fifteen miles on each side, from Westwego on the right bank to Chalmette on the left bank. Westwego is the terminal of the Texas & Pacific Railroad, and Chalmette is the terminal of the New Orleans Terminal Company, whose tracks are connected with nearly all of the railroads on the left bank of the river. The river is from one-half to three-quarters of a mile in width, and the depth within ten feet from the banks ranges from 40 to 100 feet. The harbor is well sheltered. The current of the river is not too strong for unloading in mid-stream, although most of the vessels land, broad-side, along the wharves, which are constructed on piling and extending out into the stream from 50 to 100 feet in some places. This whole wharfage front on the left bank of the river, which is the bank on which the greater part of the New Orleans population lives, is approached by streets, and by lines of railroad tracks which permit cars to come on to the wharf, loading directly into the ships.

Facilities Provided for Handling Cargoes.—On the right bank, at the Westwego wharf, which is the property of the Texas & Pacific Railroad, there are sheds, wharves and tracks, etc., capable of accommodating six or seven ocean steamers at one time. These wharves, as stated, belong to the Texas & Pacific Railroad, and are used almost exclusively for their freight shippings. About four or five miles further down on the right bank, are the terminal facilities of the Southern Pacific Railroad, which are also provided with wharves, etc., capable of accommodating four or five ocean steamers.

Several miles further down is the United States Naval Station, with its large floating dock. This dock is seldom used by the government for purposes of its own, and by consent of the government, when not used by government vessels, is utilized in repairing vessels of the merchant marine.

On the left bank of the river there are nearly five miles of public wharves, owned and operated by the Port Commission, and about one mile of private wharves owned by various railroads.

The public wharves are now being covered by steel sheds, so that freight may be loaded and unloaded in any kind of weather. About two miles of these sheds have already been constructed, and the remaining three miles will be covered within the next two years.

The mechanical appliances used for loading and unloading cargoes are the following: for sugar and molasses, a sort of endless chain contrivance is used, which carries the sugar and molasses between wharves and boats. The tropical fruit ships use an endless chain to which is attached at regular intervals pouches, into which bananas, etc., are placed, and carried from the

hold of the vessel to the wharf. As stated before, in most cases, spur tracks run from the main railroad tracks to the ship's side, to permit direct loading and unloading.

The City of New Orleans is now constructing a belt railroad system, which will encircle the entire city. It is already constructed along the river front for a distance of about eight miles, serving almost all the wharves along the left bank. It is owned entirely by the City of New Orleans, and will be controlled and operated by the city government. It is now in partial operation and will be in full operation within a year. When completed it will connect all the railroads, and will be a cheap and rapid method of transferring cars from one railroad system to another, and to the wharves.

Ownership of Docks or Wharves.—The ownership of wharves is vested in the State of Louisiana, and they are controlled and managed by the Board of Port Commissioners appointed by the Governor of the state. This board makes rates, subject, however, to the control of the legislature. Under legislative authority, the port commission prescribes all the rules and regulations for loading and unloading of vessels and for everything connected with the commerce of New Orleans, in so far as use of the wharves is concerned. The board is composed of five members, who are appointed for terms of five years each, in such a manner that not more than one commissioner's term of office expires each year. Previous to the appointment of this board, these wharves were leased to private individuals who used them as a source of private enrichment. The board uses the revenues solely in improvement of the wharves and extension of port facilities. The board is composed of prominent merchants and business men, and has given full satisfaction. The members receive no compensation, but, of course, their subordinates do. These subordinates perform their work well, and little or no complaint is ever heard against them.

Its employes comprise a superintendent and a secretary who receive each an annual salary of $3,000; two engineers, receiving annual salaries of $2,400 and $1,600 respectively. In addition there are four deputy commissioners and one collector, a superintendent of construction, a bookkeeper and twelve other employes, inspectors, messengers and assistants. The total cost of administration is less than $35,000 per annum. The board also maintains a patrol system of policemen, under the special control and pay of the board, at a cost of about $22,000 per annum.

Nature of Charges for Services.—There is no charge whatever on the cargoes entering this port, but there are charges for wharfage which are levied on tonnage, and they are as follows: Ocean vessels, two cents per ton per day for the first three days, one cent per ton per day for the next three days, thereafter free for a period of thirty days. Where sheds are provided an additional charge of one and one-half cents per ton is made. All of the above charges are based upon the gross tonnage.

There are also charged harbor dues of $2.50 for vessels under 100 tons, $5.00 for vessels from 100 to 500 tons, and $10.00 for vessels over 500 tons. A charge of $1.00 is also made for each copy of certificate issued, for the inspection of hatches, surveys or cargoes, etc. The masters of each vessel

however, are furnished free one copy of all surveys upon their respective vessels or cargoes.

For river steamers, barges, luggers and other craft, using the wharves for not more than five days, a charge of six cents per ton is made, and for each day after said period of five days a charge of $3.00 per day is made. Steamboats, etc., arriving and departing more than once a week are charged three cents per ton each trip. These charges are collected from the owners of the vessels, by the collectors of the port commissioners.

For the year ending August 31, 1906, the receipts from sea-going vessels were $205,403.52 for wharfage, and for shed charges $14,906.11, the total receipts from all sources during the year, ending August 31, 1906, were $278,113.79. Balance on hand December 31, 1905, $306,878.38. The disbursements were $646,888.63; the greater part of these disbursements was for permanent improvements, such as sheds, wharves, etc., and to pay for real estate fronting on the river; the balance on hand in December, 1905 was principally composed of proceeds of the sale of bonds issued during the year before for the purpose of making improvements.

There is no income from rentals, leases, etc., all the income being from the sources just stated. All the funds received are used for the improvement and extension of harbor facilities, and for the redemption fund to retire the bonds, which were issued for the improvement of the wharves.

Suggestions for the Improvements of the Harbor.—The United States Government appropriates every year a considerable sum for keeping the harbor in condition. The Mississippi River is a peculiar stream; its banks are lined with levees which in the City of New Orleans rise several feet above the city proper, and the wharves are usually built on the river slope and extend over these levees. In the commercial part of the city, the levees are very wide and slope gradually so that the levee is hardly apparent to the view.

The changing current and eddies of the river, frequently after a high stage of water, make shoals of places where a week previous there were fifty feet of water. The port commissioners keep a dredge boat continually at work, taking away the silt and other deposits that accumulate. It also maintains a fire boat, whose services are given free of charge to any vessel or any dock on fire.

The port commission has been authorized to issue $2,000,000 of bonds to build sheds, wharves, paved approaches, and other port improvements. It has issued so far but $750,000 of these bonds, and has well under way a comprehensive system of sheds, approaches and wharf construction which will, within the next five years, make the harbor of New Orleans second to none in the country. What is now needed is for the United States Government to improve the river's mouth and banks so that there may be no obstruction there. Improvements now going on at South West Pass—the largest of the river's mouths—will soon give us another fine ocean outlet, through which the largest ships afloat can enter the Mississippi.

Altogether, the vast strides our local commerce is making, and the greater impulse that will be given by the construction of the Panama Canal, and the impetus already felt from the rapid increase of railroad terminal facilities

here, are doing wonders for New Orleans. The commercial and manufacturing interests have reason to congratulate themselves that the control and management of the harbor and port facilities that mean so much for local progress, are now taken out of politics and in control of practical and far-sighted commercial men, fully alive and equipped for the work they have undertaken.

DETROIT

By Delos F. Wilcox, Ph.D., Secretary Municipal League, Detroit, Mich.

The most notable characteristic of the water traffic at Detroit is the passenger service. This is the home port of regular and excursion steamers to Buffalo, Cleveland, Put-in-Bay, Toledo, the river islands, Chatham, St. Clair Flats, Port Huron, Alpena, St. Ignace and Mackinac. The number of excursion passengers carried is larger than from all the other lower lake ports combined.

The passenger steamers also carry large quantities of baggage and merchandise freight. As regards bulk freight, very little coal comes to this port by water; the iron ore receipts are not more than three or four million tons a year; a considerable portion of the lumber supply is brought by vessels owned by the dealers; the grain shipments eastward amount to eight or ten million bushels a year.

The harbor consists of about nine miles of water front on the Detroit River and four on the River Rouge. The dock line on Detroit River is nearly straight, with from twenty to forty feet depth of water. There are no mechanical devices furnished for unloading cargoes except in the case of coal and ore.

The city owns docks at the water works, public lighting plant, Owen Park, Belle Isle Bridge, and the Western Boulevard, although none of these except the first two are used very much as docks. The city also owns docks at the foot of three or four streets, but receives no rental from them. The rest of, and nearly all, the docks are private property.

The harbor master in Detroit is an officer appointed by the police department. No vessel may be unloaded at the public wharves without his permission. He is authorized to protect the owners and occupants of wharves and docks in the free use of them. He has authority to regulate the anchorage of vessels and to give directions relative to the location, change of station of steamboats or other vessels as the necessity of trade and navigation may demand, with due respect to the rights of occupants of wharves. In case any boat, vessel or wreck is sunk or deposited intentionally by its owner or the person in charge at any point in the Detroit River within the limits of the city so as to obstruct navigation, the harbor master must notify the owner or agent having control of the property to remove it, and if it is not removed to cause it to be taken away at the expense of the delinquent party.

WASHINGTON, D. C.

By DANIEL E. GARGES, Secretary, Committee on Wharves, District of Columbia.

The City of Washington is situated on the eastern bank of the Potomac River, 106 miles from its mouth and about 185 miles, via the river and Chesapeake Bay, from the Atlantic Ocean. The main branch of the river forms the southwestern boundary of the city, and it is joined from the east about three miles north of the southern apex of the District of Columbia by the eastern branch or Anacostia River, which flows through the District of Columbia in a southwesterly direction to that point. The river is navigable for vessels of comparatively light draught, but the channel is tortuous, the prevailing depth being about thirty feet.

There are about four miles of harbor frontage. The traffic consists of produce and small freight and also ice, wood, coal, lumber, etc. The amount of freight entering and leaving the port is about 878,823 tons per year.

The river in front of the city divides into the Washington channel, the Georgetown channel and the eastern branch. The wharf property along the Washington channel is owned by the United States and is under the control of the Commissioners of the District of Columbia. The wharves are leased to steamboat companies and commercial concerns, and the annual rental amounts to about $16,000. The wharf property along the Georgetown channel is owned by private parties. The ownership of the wharf property along the eastern branch is an unsettled question. The Washington channel where most of the shipping is done, has a Water Street front from 80 to 100 feet wide, which gives ample facilities for handling all shipping.

The matter of patroling the harbor is under the police department and directly in charge of the harbor master, a lieutenant of the police force, whose duties are to see to the proper movement of vessels in the harbor and a general policing of the same. The matter of leasing the property is in charge of a committee on wharves, appointed by the Commissioners of the District of Columbia. All funds received from leases are deposited as revenues, one-half of which go to the District of Columbia, a municipal corporation, and the other half into the Treasury of the United States.

The water front of the City of Washington is in much need of improvement. The Congress of the United States, which makes all appropriations for the expenses of the government of the District of Columbia, has recognized this by providing an appropriation for the preparation of plans and a survey of the water front, with a view to its improvement. These plans are now in course of preparation, though no plan of treatment has yet been definitely decided upon. It is probable, however, that the entire water front owned by the United States will be reconstructed with concrete docks on piles; that the channel will be widened to admit of additional harbor and shipping facilities, and that the Water Street will be widened. The plans will possibly involve the expenditure of a million dollars. Among the features under consideration is a municipal dock with a recreation pier.

PROVIDENCE

By Frank E. Lakey, Providence, R. I.

The character of the shipping entering this port is chiefly coastwise. With the exception of an occasional two-master to the Cape Verde Islands, there is no transoceanic trade. Salt from Turks Island, and lumber from Nova Scotia, comprise the chief direct imports. For the year ending December 31, 1906, the harbor master reports 11,582 vessels as arriving, of which the steamers number 3,533; tugs, 3,221; barges, 1,535, and oyster boats, 2,915. The local excursion transportation is large and probably makes up the bulk of the 1,134,461 passengers carried last year by steamers. For some years two daily steamboats have left for New York. Recently two other boats have been added. A line runs to Norfolk, Va., also. The total merchandise for the year was 3,080,000 tons, of which that brought by steamers was 753,405 tons. The ten other chief items were: Coal, 2,133,772 (due to the extensive mills of Providence and vicinity, making over two-thirds of all merchandise received); oil, 43,200 tons (12,451,332 gallons); oysters and oyster shells, 43,081 tons; lumber, 31,531 tons (32,628,200 feet); iron, 8,166 tons; ice, 8,125 tons; brick, 8,012 tons; pipes, 6,574 tons; chemicals, 4,971 tons; salt, 4,140 tons; cement, 4,455. Thus the trade, exclusive of coal, is seen to be relatively small, despite the natural advantages of the bay and harbor.

The nature and extent of the harbor requires account to be taken of Narragansett Bay. This bay is 25.34 miles long, 7.30 miles middle width. Its tide-flowed area is 134.8 square miles, of which about 71.4 square miles are channels and possible anchorage grounds. Two main ship channels, with a third reaching part way to Providence, "have twenty-five feet at mean low water, and could be entered from the sea by the largest vessels without a pilot." With so secure a land-locked harbor, easy of access, with good railway facilities on both sides of the bay and in all directions, and immense and varied manufactured output, "Providence has peculiar advantages of location as an importing and exporting station, especially with reference to Atlantic coastwise traffic south of Cape Cod." The United States Government is at work enlarging the anchorage grounds to an area of 171 acres, with a depth of twenty-five feet at mean low water.

The condition of the water front at the present time is encouraging only in the possibilities of the future. Much can be done to develop and attract trade. Nature has been kind, but for the 300,000 or more persons within ten miles of the City Hall the amount of the marine transactions is not an object of boasting.

The facilities for handling cargoes are good, but crowded. Spur tracks run on the docks, reducing the handling to a minimum. The proposed system of docks on both sides of the harbor will have spur tracks on each dock. Easy connections north, west and south can be made with the main lines of railways without grade crossings.

The wharves of Providence are all private property and are used for specific purposes. Agitation from time to time for public wharves as yet

has borne no fruit. The management of the harbor is in the hands of three harbor commissioners, elected by the legislature, and a harbor master, elected by the city council. The excellence of the service of the chairman of the commission is attested by his incumbency for thirty consecutive years—since its organization, in 1877. The income from rentals, leases, etc., cannot be ascertained, since it is purely a private matter.

The future improvement of the harbor and bay presents brilliant prospects. By act of the legislature $400,000 has been voted. This has never been appropriated. The state is to be asked to submit a proposition to the voters to issue $500,000 state bonds for harbor improvement. By act of Congress, passed in 1906, $750,000 was appropriated for Narragansett Bay and Point Judith Breakwater. Of this amount $500,000 is to be spent above Providence Island, *i. e.*, anchorage for Providence, to make an anchorage twenty-five feet deep at mean low water and 400 feet wide, with two wide channels direct to the sea. Thus $1,650,000 will, in all probability, be soon available for the harbor and bay. The channel of the Seekonk River has been straightened and deepened, rendering easier access to the City of Pawtucket. When the railroad bridge over this river (which lies directly east of Providence) is completed, other changes are planned which will add greatly to the usefulness of this river.

The Harbor Improvement Commission, composed of some of the ablest men in the state, and appointd by the legislature, in their report for 1906 say, "Experience and the process of reasoning both seem to indicate that the welfare of the public requires the public ownership and control of at least a part of the shore, with wharves, slips and terminal facilities thereon." It is suggested that the state improve one or two wharves at a time and lease for fifteen-year terms. "Thirty per cent of the water front could be thus held and controlled for the public use and benefit." A fifty-year three per cent harbor improvement bond could be placed, and, in the opinion of the commission, not only would no burden result, but the amount needed to be raised by general taxes would be lessened. If the proposed canal connecting Narragansett Bay and Boston harbor were built, the necessity for the improvement of the harbor would be increased. In twenty-six years the route around Cape Cod has claimed 1,233 wrecks, at an average yearly property loss of over $500,000, and a yearly sacrifice of thirty lives.

WILMINGTON

By William Coyne and John N. Lawson, Jr., Wilmington, Del.

Wilmington is the headquarters of the largest powder and explosive manufacturing company, has the largest car wheel manufacturing plant, the largest patent leather plant, and two of the largest morocco leather plants in the world. Last year its commerce by water amounted to $72,000,000, and by rail to $120,000,000, a total of $192,000,000, or $2,230 per capita, which indicates its commercial importance and its need of water and rail facilities.

Wilmington has three rivers, the Brandywine, Christiana and Delaware. The Delaware flows along its eastern border three miles. The Christiana, which flows through the manufacturing district, entering the Delaware midway between the northern and southern borders of the city, has a channel 18 by 150 feet at low water for three miles from its mouth. The Brandywine flows into the Christiana three-quarters of a mile from its mouth and has a channel 7 by 60 feet at low water for one and a half miles.

The national government is bulkheading the Delaware one and a half miles along the eastern city line. When completed, there will be seventeen feet of water at low tide along the bulkhead, gradually deepening to the main channel, which is 400 feet from the bulkheading. The national government is now dredging the Delaware main channel to make a 30 by 600 feet channel at low water from the sea to Philadelphia, it being to-day less than twenty-eight feet deep at low water.

The theory of the United States engineers is that bulkheading at Wilmington will so narrow and increase the current that the 30 by 600 feet channel will be maintained without future dredging. This will tend to deepen the water between the bulkheading and the main channel, but if it does not, little dredging will be required to enable the deepest draft vessels to lie alongside the bulkheading. Material taken from the channel is being used to fill behind the bulkheading, thus, without any expense to the city, providing a wharfage front of one and a half miles on deepwater. The water front is easily accessible to any of the three railway systems that serve the city, the Pennsylvania, Baltimore and Ohio, and Philadelphia and Reading (all are close to the water front), or to any other interests seeking a safe, commodious ocean port.

If the government does not extend the bulkheading further down the river, private or municipal enterprise can, with but little outlay, provide the additional bulkheading required to make the entire three miles of Delaware River frontage one long deep water wharf.

Wilmington is within seventy-two miles of the sea, and there would seem no good reason why, with an immediately prospective deep water frontage of one and one half miles, and Christiana River frontage of six miles of eighteen feet depth at low water, it should not provide adequate rail and water facilities for a manufacturing community of a million people in the near future.

At present the shipping, entering or leaving the port, is confined to passenger and freight lines running between Wilmington and Philadelphia, Wilmington and New Jersey coast points, a freight line between Wilmington and New York, and numerous coastwise vessels of all descriptions, engaged in transporting raw materials to and finished products from its numerous industries. Ocean steamers of deep draft are discharged or loaded in the Delaware River by the use of car-floats or lighters. Thirty to forty such vessels are discharged and an equal number loaded annually. The Philadelphia and Reading Railway maintains a car-float system, serving numerous industries up and down the Delaware from Wilmington. All cargoes are handled to and from vessels by hand or winches.

The city owns eight docks, averaging fifty feet in length, along the Christiana on the eighteen foot channel, which it leases for an annual rental of $100 per dock. The lessees use the docks for their private business. Leases are for three-year periods. Nearly all lessees will, for a nominal charge, allow goods to be handled over their docks, so long as it does not interfere with their business. Along the eighteen foot channel of the Christiana River front 15,000 feet are owned and used by industries that have more or less dockage facilities. Practically 20,000 feet of the Christiana River frontage toward its mouth is unoccupied. The present plan is to narrow the Christiana channel by building wharves or piers, and thus increase the current so that little or no dredging will ever be required.

The proposed deep water canal between Delaware River and Chesapeake Bay will be of almost immeasurable importance to the shipping and commercial interests of Pennsylvania, New Jersey, Delaware, Maryland, Virginia, North and South Carolina. Wilmington will reap its proportional benefit.

Wilmington waters are under the control of a board of port wardens, elected by the city councils annually; they, in turn, appoint a harbor master, whose duties are to see that nothing is done to disturb the channels or commerce, to regulate speeds and to settle differences. The duties of all are well performed.

There seems to be splendid opportunity for the municipality of Wilmington to acquire all the frontage along the Christiana and Delaware Rivers not occupied, improving it by erecting wharves, piers and docking facilities as necessity therefor arises, and leasing them at low rates to either private or public enterprises. So situated, the city would be able not only to recoup itself on the investment and provide a continued source of revenue, but would have the immense advantage of being able to offer inducements to large manufacturing or transportation interests, to whom deep water transportation, added to adequate railroad facilities, is of paramount importance. The rail and water facilities of the larger coast cities of the United States are to-day abnormally congested. This congestion is growing daily. The present seems, therefore, a most opportune time for cities situated like Wilmington to condemn and acquire, at a reasonable figure, wharfage property that will, with improvement, be of immeasurable value.

DULUTH

By Alfred McCallum, Duluth, Minn.

During the "Glacial Period" Lake Superior was fully 500 feet higher than it is at present. The action of the waves, at that time, brought about that peculiar formation known as Minnesota Point, which forms a natural breakwater for the bays of Superior, St. Louis and Allouez, which are the Duluth-Superior harbor. This strip of land is fully nine miles in length, extending from Duluth to the Wisconsin shore. It is cut by two canals a trifle over six miles apart, known as the Duluth Ship Canal and the Superior

Entry. The Duluth Ship Canal was originally built by the City of Duluth in 1871; was rebuilt and enlarged by the United States Government in 1898-1901 at a cost of $650,000. The Superior Entry was originally the outlet of the St. Louis River and was a winding channel over a shifting sandbar, with an available depth of nine to eleven feet and difficult to follow. This canal was originally constructed with timber piers at the site of the natural entrance in 1867-1875. Reconstruction with concrete piers commenced in 1903 and is now in progress. The estimated cost of reconstruction is over $1,000,000. Through these two arteries of commerce passed last year (1906) a tonnage of 29,171,221 short tons, valued at $251,894,844, being an increase over the previous year of 28.64 per cent, and an increase over the year 1890 of 924 per cent. This enormous tonnage would provide 3,000 cargoes for the largest freighter on the lakes, and would furnish loads for all the cars that could be gotten on a three-track railway extending from New York to San Francisco, with cars of a capacity of 40,000 pounds.

Major Graham D. Fitch, in charge of harbor improvements on Lake Superior, in his annual report, just completed, says: "It is impossible to give precise figures of the marine commerce of the principal ports of the United States for comparison with the Duluth-Superior harbor, for the reason that at ocean ports of the United States, as well as of foreign countries, no record of domestic tonnage is kept at the custom houses, whereas, on the Great Lakes, a record is kept of the total marine commerce, both foreign and domestic. In the principal ocean ports of the United States the tonnage of the local and coastwise (domestic) marine commerce is several times greater than that of the foreign."

Any comparison, therefore, of the relative marine commerce of lake and ocean ports, based solely on custom house records, is, for the reason stated, incorrect and misleading.

The navigation season for the Duluth-Superior harbor averages only about eight months per annum, while for ocean ports navigation is carried on during twelve months. Considering the mean monthly freight movement during the season of navigation, Duluth-Superior harbor practically stands next to New York.

The strategic position of Duluth in the world of commerce is due to this magnificent landlocked harbor, stretching away from the ship canal a distance of five miles to West Duluth for the larger vessels and then on to New Duluth, through the St. Louis River, for vessels of lighter draft.

Before being improved the harbor was a broad expanse of shallow water, with a general depth of only eight or nine feet, except along the channels, which were deeper, but variable. A great deal of money has been expended on these channels by the government. By an act of Congress in 1896 contracts were let for the removal of 21,000,000 yards of earth at an estimated cost of $3,130,553, this being the largest dredging contract ever let in the United States. The operations just described have given fully seventeen miles of dredged channels from 120 to 600 feet wide and basins of an aggregate area of about 360 acres. The general depth is twenty-two feet, and no part of the dredged area has a less depth than twenty feet at low water. This work

gave us a harbor frontage of forty-nine miles, lined with docks equipped for the loading and unloading of almost every kind of merchandise. Every year millions of feet of logs are rafted through the canals to be sawed into lumber at the local mills and then loaded on vessels for transportation to lower lake ports. There are numerous coal docks equipped with the most modern machinery for the speedy and economical unloading of vessels, the coal to be again loaded on cars for distribution to the great Northwest. The railroad docks are equipped for the handling of package freight, and grain with which the elevators are full to bursting at this season of the year from the farms of Minnesota, the Dakotas and even from the Canadian Alberta country. Last and greatest come the iron ore docks, from which was loaded last year 19,368,186 tons, with a valuation of $48,420,464. This mineral makes up about two-thirds of the total tonnage of the Duluth-Superior harbor.

The city's interest in the harbor is looked after by a harbor matser, who performs his duties in a satisfactory manner. He has to decide between vessels their right to a certain dock, to prevent the obstruction of slips by vessels laying at the head of a dock, to prevent dumping ashes in the bay, and to take care of the city's interest in the harbor generally.

The municipal docks, of which there are several, are built at the end of streets or avenues, and are used principally for ferry purposes. They are kept up by the city, and no revenue is collected for their use.

The water of the St. Louis River is diverted at Thompson by the Great Northern Power Company, who have developed 30,000 electrical horse-power under a fall of 378 feet. This has been brought to Duluth and is now almost ready for distribution. The company expect ultimately to develop and install an additional 110,000 horse-power to operate under a fall of 740 feet. What this will eventually mean to the financial, commercial and shipping interests of Duluth can more readily be understood when it is known that less than 20,000 horse-power is used at the head of the lakes to-day.

The widening of the entry of the Duluth Ship Canal allows the waves a greater sweep into Superior Bay, and as a result, when a northeast wind is blowing, which is the prevailing wind at certain seasons of the year, boats find it next to impossible to lie at their docks. One boat last year broke fifteen six and one-half inch lines while unloading her cargo. This condition has made a problem which the government engineers are attempting to solve. Several schemes have been proposed, but the one that seems to meet with the greatest favor here is that of constructing a breakwater about a mile from the canal to extend from the land a sufficient distance out into the lake to protect the entrance to the harbor.

No description of the harbor would be complete without some mention of the Aerial Bridge, which spans the Duluth Ship Canal at Lake Avenue, and is the only one of its kind in the world. Before the bridge was built transportation was done by ferry, which was inadequate and expensive. Many different kinds of bridges were suggested to the government engineers, but none met with their approval, as they were likely to interfere with navigation. After receiving suggestions from others, Thomas F. McGilvray,

city engineer, finally evolved the present plan, which was accepted by the government engineers.

The opening between towers, which signifies practically the length of the bridge, is 394 feet. The lower truss of the bridge is 135 feet from the water and the upper chord is 185 feet above water level. Its actual weight is 3,337,000 pounds, and it cost $108,000. The car will hold 400 people and four teams and is operated by means of a trolley wire and a cable, which is wound around a steel drum, the controllers and motors being aboard of the car.

The cheapness of freight rates by water gives Duluth the key to the situation as a distributing point, and will eventually build up here the largest wholesale center for that great empire of the Northwest.

TAMPA

By J. D. Calhoun, Secretary of Board of Trade, Tampa, Fla.

There are four ports located on Tampa Bay—Port Tampa, Tampa, St. Petersburg and the Manatee River—naming them in the order of their present dimensions, business and activity. For all practical purposes only the two first named need consideration here. Port Tampa is located on Old Tampa Bay, nine miles southward from the city. The port of the city itself is located on the upper end of Hillsborough Bay and along the Hillsborough River for perhaps four thousand feet above the mouth. This port is undergoing enlargement and development to a depth of twenty feet in its channel and slips, with the erection of a complete system of commercial terminal facilities—a work which will be practically completed within a year.

Both these harbors are completely landlocked and sheltered from wind and wave, and are situated inland respectively twenty-nine and thirty-eight miles from the Gulf. The facilities of Port Tampa are complete in every essential respect, and vessels drawing twenty-four feet of water may anchor in the slips. The water front is in the best and most improved condition, and the facilities for handling cargoes are sufficient and modern. This same description will apply to the immediate harbor of Tampa within a year—with the exception that the channel depth will be but twenty feet.

The number of seagoing vessels arriving and departing from Port Tampa during the year 1906 was 903, with merchandise tonnage of 968,051 tons, of which 529,268 was phosphate for export.

The commerce of Hillsborough Bay, being more largely local, was carried on by smaller vessels and marked by much greater activity. The number of arrivals and departures was 2,147 and 2,143, respectively, and the actual tonnage of merchandise conveyed was 432,981.

The ownership of docks and wharves is private in both ports—the Atlantic Coast Line Railway, by a subsidiary company, owning the facilities at Port Tampa, and the Seaboard Air Line Railway being engaged in the

work of enlargement and construction at Tampa. At Tampa there are many commercial houses owning their own frontage and facilities for shipping, these facilities being necessarily somewhat crude.

The maintenance of condition is a matter attended to by the owners, except that the government maintains the condition of the various channels which it constructed. This is almost a negligible item, on account of its smallness.

The harbor officers consist of a harbor master and six pilots, with a practically nominal commission for the selection of the master and pilots—the harbor master, however, being actually designated by the governor of the state. He has no specific salary, but it is understood that he receives compensation from the pilots' association. The duties of the harbor master are very slight. The pilots are efficient. Their charges are collected from the vessels employing their services, and such service is compulsory with few exceptions. Charges for towage are a matter of private arrangement between the tugs and the vessels employing them.

The wharf business being entirely private—except as the Atlantic Coast Line is required to publish a schedule of charges—there is no way of ascertaining the sum of the moneys received from charges, rentals, etc., or the disposition of the same.

As regards the improvement of the harbors and bettering the facilities for commerce, the situation is such that there is nothing needed which does not promise soon to be supplied. With the increase of traffic that will be developed by the deeper channel and early improvements at Tampa there will doubtless be a demand for an increased depth of the channel. A need common to the entire bay is a depth of thirty feet, with a width of 300 feet over the outer bar at Egmont Pass, and a gradual deepening of all inside channels and slips to a like depth as the requirements of commerce demand.

FOREIGN CITIES.

LONDON, ENGLAND

By Prof. J. Russell Smith, University of Pennsylvania

Almost every city in the whole world having any great commercial importance has a port problem demanding that something shall be done for the improvement of existing conditions. It has come about through the territorial division of labor which has caused the bulk of foreign commerce to increase tremendously and continuously in every quarter of the globe. Along with this growth of trade has been a growth in the size of the ships, commanding not only more space, but also, what is of even greater cost, more depth.

Great Britain, being the leader in nineteenth century commerce, had the port problem to meet and settle earlier than other countries, and it met the situation in the first half of the nineteenth century by private enterprise.

Scores of dock companies were formed to improve the various ports, sometimes several of them in one port. These were private corporations seeking profits, just as a railway or any other transportation company does. Unfortunately for these investors, the conditions did not favor the permanent success of their enterprise; for a few decades all went well, and then the mid-century spurt of British commerce caused them to become inadequate. The introduction of the steamer also made many of the docks out of date, because a large new vessel could not enter the old dock. The increase in trade and increase of steamer size caused a general breakdown of the old private dock companies, and some kind of a port reorganization problem faced most of the British cities in the decade 1850-1860.

The problem was a much more difficult one than it would have been in America, because of the physical peculiarities of the British streams and harbors. The coast of that country is swept by a tide of such great height that, while a modern vessel can enter almost any river at high tide, at low tide, owing to the great fall of water, the vessel lies in the harbor subject to strains which modern shipping cannot resist. Some artificial body of water must, therefore, be prepared in which the vessel can lie in safety at low tide. This difficulty was met by the building of so-called wet docks, which are almost invariable excavations in the lowlands along the bank of the river, which excavations must be walled up and can be entered only through lock gates such as are used in ship canals.

It is interesting to note that one British port did not demand reorganization in the decade 1850-60. This was London, where the old private companies were able to improve their facilities and meet the demands which had wrecked scores of similar companies in other British ports. The greater strength of the London companies was due to the fact that the vast commerce of London had enabled them to become strong, and the very high value of the commerce of the city, which was the European distributing point for the valuable commerce of the East, enabled the companies to lay heavier dues than could be borne by the bulkier and less valuable commerce of other cities. But the end of the London private companies is near at hand. The commercial interests of the city and of the empire are united in the demand for more facilities; the existing authorities are alike united in their inability to meet them. Something must be done to improve the port of the greatest city in the world, which is now being sapped because of her inadequate facilities for the receipt of ships.

The present deadlock furnishes an interesting example of the way the British have in the past managed their harbors. There are no less than four private interests doing work which, in Germany, and to a considerable extent in America, would be done by an arm of government.

(1) The first of these is Trinity House, an old corporation grown from a mediæval guild of pilots, located on the Lower Thames. It has gradually changed its character through the centuries, and now has, in addition to the authority over pilots, the work of lighting and buoying the channel of the Thames, and is also the lighthouse authority for the coast of England, Wales and Gibraltar. While it has absolute power over the pilots and

lights of the river that reach to London, it is a close corporation in which the senior members, the "Elder Brethren," fill their own vacancies from the junior or "Younger Brethren," and also elect outsiders to fill this lower branch of their membership.

(2) There is considerable danger of confusion and trouble because of the lack of co-operation between the activities of the Trinity House and the Thames Conservancy Board, which is the channel deepening body of the River Thames. This board is the creation of Parliament and represents the one important step taken in the 50's (1857) to enable London to meet the increased demands of free trade commerce. This body has charge of deepening the channel, regulates vessels within the port, licenses docks and piers, and makes any needed by-laws for the control of shipping in the harbor.

Its revenues come from the dues paid by vessels passing up and down the Thames, but its funds are entirely inadequate for the great improvements that are needed in the harbor.

(3) If the channel could be deepened so that the greatest ship could come to London, there is no dock in which she could lie. The old companies which prospered from 1800 to 1880 have done their best and can do no more. Under the régime of competition they had, in the latter part of the last century, severe rate wars and also made great financial sacrifices to build new and improved docks. Through consolidations there came to be but two strong companies in 1880. In 1888 these two companies came to a working understanding and stopped competing with each other; they were finally consolidated into one management in 1900, but all to no avail. Their dividends have ceased, their financial condition is hopeless and Parliament will not permit them to charge heavier dues, and if they could the commerce would probably not stand it. If they could get the greatest ship in the world to reach their gates, the dock companies could not make a berth for it, and they are inadequate for those that now enter. There is great confusion in the delivery of the goods. Two and even three cargoes sometimes lie upon the quays and wait for the lighters to come carry them away.

(4) The fourth individual factor in London is the Watermen's Company, which has the control over all the boats in the harbor. Nearly all the goods coming into the port are handled at least once in a lighter. These, with the river boats, make a total of over 12,000 craft, and these craft can be run only by a man licensed by the Watermen's Company. This company is the present form of a sixteenth century guild of Queen Elizabeth's time that then had a monopoly of running rowboats within the city limits on the River Thames. It was necessary for such a man to be a good oarsman, and he therefore became a member of the guild only through membership, and to this day the man who runs a scow or steamer on the River Thames must have passed his apprenticeship in the Watermen's Company.

Of these four individual powers the three whose functions require the spending of money are bankrupt, and the fourth has arbitrary power which is rather easy in the present day of trade unionism to abuse. A royal commission has investigated this matter for two years, and has recommended

to Parliament the creation of a public trust. This characteristic of British institutions would combine the functions of all bodies now having any authority over the port of London. It would eliminate private profit and, through the disappearance of the hope of dividends, it could lessen its expenses by borrowing money upon the security of the port. The proposed composition of the board shows the compromise element in British institutions. The members are to be appointed as follows:

	Members.
(*a*) By the London County Council	11
(*b*) By the City Corporation	3
(*c*) By the Admiralty	1
(*d*) By the Board of Trade	1
(*e*) By the Trinity House	1
(*f*) By the Kent County Council	1
(*g*) By the Essex County Council	1
(*h*) By the London Chamber of Commerce	2
(*i*) By the Governors of the Bank England, from among persons belonging to the mercantile community of London.	5

The elected members should be elected by different groups of voters, viz.:

	Members.
(*j*) By the oversea (or ocean) trading shipowners	5
(*k*) By the short sea-trading shipowners	2
(*l*) By the wharfingers and owners of private warehouses on the river	3
(*m*) By owners of lighters, barges and river craft, including river passenger steamers	2
(*n*) By railway companies connecting with the docks	2

"The electing persons, firms or companies should be given a number of votes, varying according to the amounts paid in dues upon goods, or upon shipping, as the case may be."

This is much like the manner of conducting the harbors of Liverpool and Glasgow, where such public trusts have done a great work and given much satisfaction. This is partly due, doubtless, to the character of the men who sit upon the boards of control. It is an honor to be elected; they serve without pay, as do the trustees of American universities. Unfortunately for London, the interests within the port are not all satisfied with the proposed public trust arrangement and the bill has been defeated. Parliament and London still waits and wrestles with her problem which *must* be solved.

MANCHESTER, ENGLAND

By Ernest Smith Bradford, University of Pennsylvania

Manchester presents the case of the operation of a ship canal as well as docks.

As will be recalled, the city lies inland, thirty-five miles from Liverpool, on a branch of the Mersey River, the center of "the greatest cotton manufacturing area in the world." The population of the city itself in 1905 was 631,185, but it serves a vastly larger section as collecting and distributing point. The agitation to connect the city by canal with deep water, and thus free the city from the necessity of conducting all its export and import trade through Liverpool, where dock charges were increased by the cost of railway haulage to Manchester, began in 1882. A company was formed to carry out the enterprise; but after spending nearly all of its capital, $50,000,000, found itself unable to proceed further. The City of Manchester came forward with a loan of $25,000,000, and the work was finished, the canal and docks being opened for traffic January 1, 1894. The canal is thirty-five miles long and has four locks, as the Manchester wharves are sixty feet above sea level. Seagoing vessels drawing twenty-six feet can dock in the heart of the city, and the depth is being increased to twenty-eight feet.

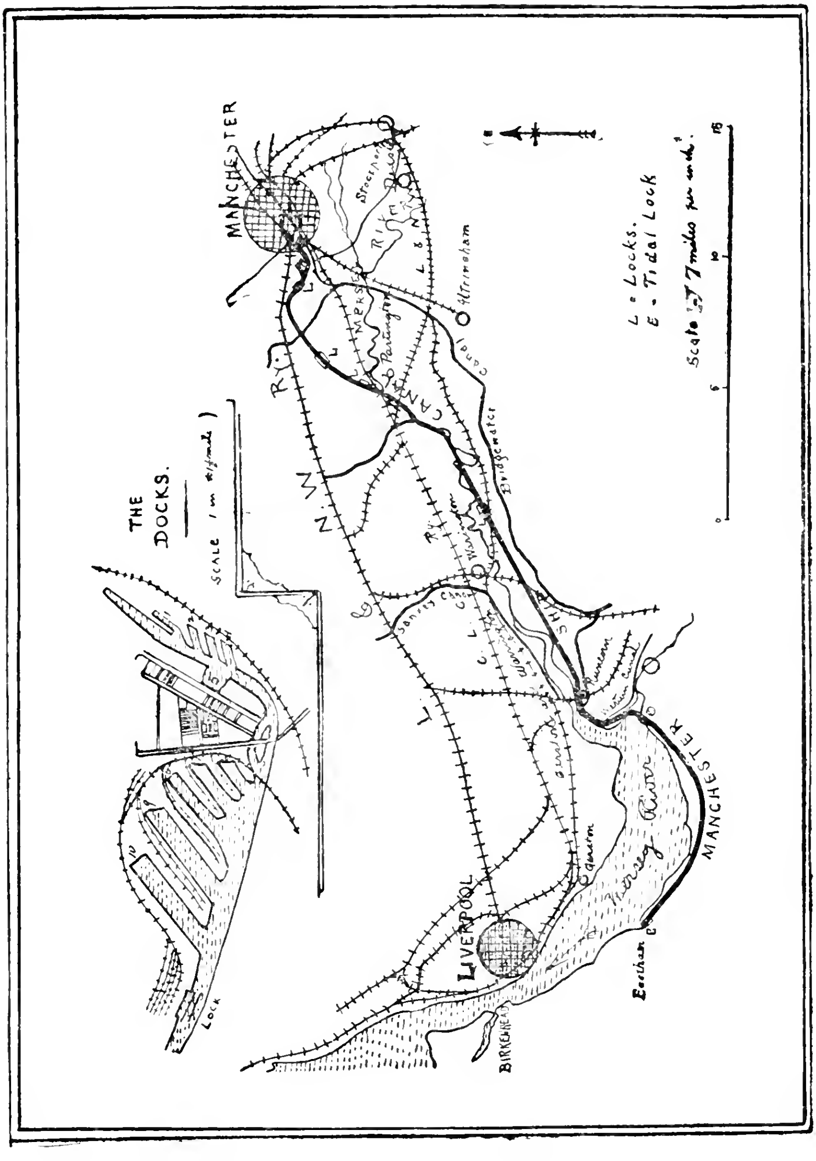
In return for the loan the city obtained control of the Manchester Ship Canal Company, electing eleven out of twenty-one directors, so that, although it is a mixed municipal and company enterprise as regards investment, its management is municipal. The taxpayers were assessed in 1897-8, to maintain the canal, a rate of 1 shilling 1 8-10 pence in the pound, a rate reduced in 1906, with the increasing business of the canal, to 4½ pence in the pound.

Below the board of directors, who have general control of the works, with their secretary and accountant, auditors, and firm of solicitors and bankers, the administration is divided between the ship canal department proper and the Bridgewater department, which operates the old Bridgewater Canal.

At the head of the ship canal department is a general superintendent, associated with whom is a chief traffic superintendent, an indoor superintendent and a railway traffic indoor superintendent. These are in the main dock office. For the docks there are a dock traffic superintendent, a railway superintendent, stores superintendent and police superintendent. There are, besides, a grain elevator superintendent, a coal superintendent (at Partington), a dockmaster and canal superintendent, and three district canal superintendents at Eastham, Latchford and Irlam. There are also chief and consulting engineers and assistants, land agents, an advertising agent, and representatives in Liverpool, London, Toronto and New York.

The Bridgewater department has a somewhat similar, though less extended, organization.

Under the control of these authorities are six miles of docks, with large warehouses; forty miles of railroad on the wharves and sixty-five more along the canal at various points—105 miles in all (1903) worked by the ship


THE DOCKS.
MANCHESTER
LIVERPOOL
BIRKENHEAD
MANCHESTER
L = Locks.
E = Tidal Lock

canal company, with freight cars and locomotives, tugs to assist steamers up and down the canal, locks and sluices, swing bridges and ferries, dredges and barges. Besides the cattle pens provided by the canal company for the coastwise cattle trade, the City of Manchester directly has erected other needed cattle yards at the wharves, and owns a cold storage plant one and a half miles from the docks. The docks are lighted by electricity, goods being discharged and loaded frequently at night. The pilotage service is in the hands of a pilotage board, which examines and licenses pilots, though pilotage on the canal is not compulsory. The board consists of six members, elected by the canal company, and three pilots. There are about 1,200 permanent employees in the ship canal department, not including laborers by the day or by piecework, and in the Bridgewater department, 2,500—3,700 in all.

At the beginning sweeping reductions in rates, both ways, were made by the ship canal, and competition forced the railways between Manchester and Liverpool to reduce their rates, also. At the same time, traffic increased both on canal and railways, consequent on the larger volume of business due to lower freights. The amount of sea-borne traffic passing through the locks in 1899 was 2,788,108 freight tons; in 1902, 3,137,348 tons; in 1904, 3,917,528 tons; while in the first half only of 1906, 2,112,000 tons, but the increased cost of handling was small in comparison. The expenses fell from 91 per cent of the receipts in 1897 to 60½ per cent in 1902. The financial results, so disappointing in the earlier years, have been much better since 1900. Along with larger cotton imports and exports have gone other items; wheat imports have increased from 4,356,000 bushels in 1901 to 8,741,600 bushels in 1904, "all of which trade," says United States Consul Hamm, of Hull, "has been captured from other ports, notably Hull and Liverpool." The canal has more than paid operating expenses since 1896; the interest on the city's stock, £5,000,000, has been met by taxes, the continual decrease of which has already been referred to, and which are likely to be soon entirely done away with, if the increase in receipts continues to exceed the increase in expenses. The private stockholders have had little return on their investment, however. The arrears of interest owing by the canal company January 1, 1905, amounted to nearly $9,000,000, of which $4,450,000 has been cancelled, and for the balance 3½ per cent preferred stock issued. From the standpoint of the shareholders in the company, the enterprise has not yet succeeded; from that of shipping interests and the general economic welfare of the city, it has been an undoubted success. Opinion as to the result of Manchester's experiment depends on the answer to the question whether city port facilities should be administered as a profit-making industry, such as city water works and lighting plants, or as the non-revenue producing factors, such as parks, sewers, streets and bridges.

HAMBURG AND BREMEN, GERMANY

By S. S. Huebner, Ph.D., University of Pennsylvania

Although the Imperial Government of Germany exercises a large measure of control over the merchant marine and over navigation on interstate waterways, it possesses, broadly speaking, no authority to construct or manage harbors, this function being intrusted solely to the care of the several states.

In Hamburg and Bremen the harbors are operated as state property, the work of construction being placed in the hands of a special department for this purpose and the general supervision and care of the harbor being exercised in Hamburg by a Department of Trade and Commerce and in Bremen by a Department for Harbors and Railways. Over these departments stands the Senate of the state, which exercises the ultimate executive power. All expenditures for purposes of construction and operation are borne by the two city-republics themselves, and are defrayed from general taxation. The receipts, on the other hand, are merged with the general income of the state, there being no necessary connection between the expenditures for harbors and the receipts derived therefrom.

In the case of each of these world-ports, the state either owns or controls the larger portion of the warehouse system. Bremen, for example, in return for a stipulated percentage of the net earnings, furnishes the ground and constructs the buildings, but does not interfere with the management of business activity of the system, except as regards the regulation of the warehouse dues. Hamburg, on the other hand, does not in the main assume the duty of constructing the buildings, but merely leases the ground for a certain percentage of the net earnings to a Free Harbor Warehouse Association. This association, while obliged to construct all necessary buildings and bear all financial losses, is, nevertheless, subject to a large measure of state control. To the Senate belongs the right of regulating the warehouse dues and of determining the nature of the buildings to be constructed. Likewise all acts which involve an increase in the capital stock or indebtedness of the association, or a change in its rules must be sanctioned by the Senate. Finally, the state is represented in the directorate of the association and possesses the power to suspend any act of that body until the Senate may have passed on its expediency.

What has been said concerning Hamburg and Bremen holds in a general way for the other German harbors. As a rule, their construction and management are intrusted to the care of local boards or commissions subject to the general supervision of the state; in Lubeck to a Board of Public Works and the police authority, in Rostock to a Board of Public Works, and in Wismar to a Harbor Department. In Prussia the management and improvement of harbors is conducted either under the supervision of the Board of Public Works for each respective city or by permanent commissions, which are local in character, but which must receive the sanction of the state as regards harbor improvements and other important changes. To be specific, all harbor matters in Stettin are managed by a Board of Public Works; in Kiel, by a Harbor Commission; in Flensburg by a Harbor and Bridge Commission; in Swinemuende, by a Royal Commission of Navigation

officiating as a local authority; and in Koenigsberg by a Royal Harbor Police Commission. The operating expenses, as a rule, are borne by the local communities and are defrayed from the harbor receipts.

Improvement of Harbor Channels.—During the last twenty-five years nearly all the leading seaports of Northwest Europe have exerted themselves to the utmost in an endeavor to adapt their facilities to the growing conditions of international trade. Indeed, practically all the leading ports, with the exception of London, have remained close rivals in this respect during the whole of this period. This strenuous competition may be attributed, first, to the rapidly increasing size and draught of ocean steamers, and, secondly, to the struggle between these ports for the Eastern trade and the consequent desire to accommodate ships of the Suez standard. The less anyone of these harbors is dependent upon the influence of tide, the greater is the advantage of that port. Hence any effort on the part of one harbor to deepen its channel or to improve its facilities for landing, loading and unloading, has resulted in a corresponding effort on the part of the other ports.

As regards the channel leading from the sea to the landing place, the German ports cannot be said to have been favored by nature. Whatever position these harbors now hold has been the result of vast labor and expenditure and the improvements have by no means been completed. Hamburg, until about 1850, possessed a channel measuring only from 4.0 to 4.3 meters in depth at high tide. At an enormous expenditure this depth has been increased to 8.3 meters, while arrangements have been made for a further increase of 1.7 meters. Bremen has also labored under unusual difficulties since its original channel measured only 2.5 meters in depth. After an outlay of some 50,000,000 marks, however, this city has secured a channel which can accommodate ocean-going vessels with a draught of six meters.

Improvement of Harbor Facilities.—The rivalry between the leading ports of Europe concerning the improvement of their channels also exists in the provision of basins, wharves, warehouses and other necessary equipment. Enormous sums have been paid by most of the ports in rendering easier and swifter the process of loading and unloading. Particularly is this true of Hamburg, nearly all of whose harbor facilities have been constructed during the last twenty years. Even as late as 1800 all sea-going vessels were obliged to anchor in the open stream, and the whole process of loading and unloading had to be conducted by means of lighters. About this time, Hamburg began the construction of a series of improvements with the result that to-day her system of docks and piers is reputed to be the best in existence, and her ship lines, according to Dr. Wiedenfeld, enjoy an ease of communication with the shore far superior to that furnished by the English ports.

Besides possessing probably the best system of warehouses in the world, Hamburg has made admirable connection with the railways and interior waterways. Separate harbor basins have been constructed for the numerous canal and river boats where they may remain to await the arrival of steamers. The steamer basins have been constructed with a view to making a swift transfer of freight to and from vessels the prime consideration, any gain

in this respect meaning of course a corresponding gain in the length of available piers. The wharves, besides being exceedingly spacious and built of durable material, are amply supplied with hydraulic machinery. At the present time the basins cover an area of 330.4 acres, while the total length of quays approximates 8.5 miles. Extensions are now being made, however, which will increase the area of the basins to 612.56 acres and the length of the quays to twelve miles. When this project is completed Hamburg will have spent some 180,000,000 marks since 1880 for its harbor facilities—of which sum the Imperial Government contributed 40,000,000 marks at the time of Hamburg's accession to the Customs Union—and this enormous outlay does not include the large sums expended in deepening and otherwise improving the channel, or in constructing the excellent system of warehouses. It only requires the further deepening of the channel, for which arrangements have already been made, and the completion of the extensions referred to above, to make Hamburg's harbor satisfy the highest requirements of modern efficiency.

What has been said of Hamburg is true of Bremen and the Dutch-Belgian ports, though on a smaller scale. In the provision of appliances for loading and unloading freight these harbors are practically on a par, and meet the latest requirements. In all, too, the construction of the harbor was so arranged that the new warehouses would be situated at once near the water and in the immediate vicinity of the large mercantile offices.

Limiting our discussion to the sums expended, it appears that subsequent to 1885 Bremen was paid in round numbers 93,800,000 marks for its harbor facilities, exclusive of the 50,000,000 marks devoted to the deepening of the channel. Of this sum the Imperial Government contributed 12,000,000 marks when Bremen joined the Customs Union in 1888 and 1,800,000 marks towards the construction of the Kaiserdock at Bremerhafen. Large sums have also been expended in Stettin, Danzig, Kiel, Emden and other smaller ports on the North Sea. Stettin, after an outlay of some 40,000,000 marks, has secured a harbor which is not only beginning to share in the American trade, but which, at the expense of Copenhagen and Gothenburg, is rapidly acquiring more and more of the Russian and Scandinavian trade. Altogether, it has been estimated that the several governments of Germany have devoted about $125,000,000 since 1888 towards the improvement of harbors, and that of this sum about six-tenths has been used for the channel and other facilities of Hamburg alone. This single port, it has been said, "has spent more money than any other two harbors in the world together during the last score of years to perfect its technical facilities."

BARCELONA, SPAIN

By Chester Lloyd Jones, University of Pennsylvania

The rapid rise of Barcelona to commercial and industrial importance is the pride of every Spaniard who hopes for a brilliant future for his country. Nor is the satisfaction in the growth of the city unsupported by facts for few, if any, of the cities of south Europe can show such a

remarkable rejuvenation as has taken place in the Spanish metropolis in the latter half of the nineteenth century.

The transformation of Barcelona from a fairly prosperous provincial capital to the industrial center of all Spain dates from about 1868 when it ceased to be a walled town and started on its present career of industrial development. Since that time the town has had a marvelous growth; it has doubled in area and its population has increased in hardly less a degree. The new city with its broad avenues and busy inhabitants furnishes a marked contrast to the contracted and idle towns of the south. The Catalan population, indeed, is remarkable for thrift, patience and industry, and well deserves the name often given them—the Germans of Spain.

Less than a decade passed after the beginning of the revival of Barcelona before the increase of the sea-going trade brought into notice the necessity of improved harbor facilities. The harbor of Barcelona—if the small indentation of the coast line could be called such—was shallow and exposed to hard winds from the east and southeast which made the handling of freight difficult at all times and especially during the rainy season. The plan of the harbor as then in use was the same as when originally laid out in 1474, and it was therefore entirely unsuited to accommodate modern shipping. The movement for improving the conditions culminated in 1880 in a plan for a harbor on truly modern lines. Too much credit can hardly be given to those who undertook the project for it meant practically the creation of an entirely new harbor in shallow water on a sandy coast that offered almost no natural advantages.

As planned in 1880 and since improved the harbor consists of two basins. Two long moles enclose it on the east and south, the coastline forming an irregular third side to the triangle. The inner and northern basin lying nearest to the heart of the city is even now unable to accommodate large sea-going vessels as its depth is only seven meters at the deepest point while the average is between five and six. Between the inner and the outer basins lie three moles two of which serve as docks, while upon the third one, which is detached, the office of the customs house is situated. By this arrangement the customs offices are almost in the center of the harbor. In the outer basin a floating dry dock is located which can accommodate medium sized vessels. In both basins it is planned to have a well developed comb of docks, those in the inner basin being already completed. Along the docks of the inner harbor spacious warehouses have now replaced the inadequate sheds which were formerly the only protection for goods needing storage. Nearly 1,500,000 square feet of storage space is now provided. In this built-up portion of the harbor there is a length of docks of over 13,000 feet with a width varying from 100 to 400 feet. The machinery for unloading has recently been much improved and is at present adequate for the needs of the port. The equipment includes, besides the numerous small portable cranes, seventeen hydraulic cranes of twenty-five tons capacity, two floating cranes of twenty-five tons and one of eighty tons. An electric grain elevator has also recently been installed. But little progress has been made in building up the comb-docks in the outer basin and consequently the commerce in

vessels of deeper draft is still hampered by lack of space necessitating delays in unloading upon the shore wharves.

The depth of the water in the outer basin varies from seven to fifteen meters. Systematic dredging has improved the center of the area to a depth of ten meters, but the lack of sufficient water continues to be one of the greatest hindrances to the satisfactory management of the deep-sea traffic.

The rapid development of the city has already given indication that the harbor, even when deepened satisfactorily, will still remain inadequate, and a new breakwater is being extended toward the south which will enlarge the water area of the harbor to almost twice its present size. Large blocks of concrete weighing as much as eighty tons are sunk to form the foundation for this mole. The extension is rendered especially desirable on account of the heavy seas that make waiting outside the harbor dangerous in stormy weather. Increased protection to the shipping during adverse weather conditions is in fact an absolute necessity if the city is to continue its present commercial development.

One of the greatest handicaps of the port of Barcelona in the past has been the inadequacy of the coal supply. In spite of efforts by the Cortez to encourage the production of Spanish coal, no satisfactory development of this branch of the country's resources has occurred, and the chief dependence for sea vessels is now, as formerly, upon English mines. Up to 1902 the Spanish duties on imported coal were levied on all that came into the country irrespective of its destination. In that year, however, an English company, backed by the commercial interests of Barcelona, secured a special concession from the central government allowing them to construct a floating coal hulk in the outer harbor, all coals shipped to which were to be used in bunkering sea-going vessels and to be free from the customary duties. This has so reduced the cost of coal in the port that a decided increase has taken place in the number of ships bunkering here.

At present two floating coal docks are maintained capable of discharging coal at the rate of from 500 to 700 tons daily. On account of the extra charges for the higher speeds, however, the usual rate is from 300 to 400 tons per day of ten hours. The company has recently begun the installation of electric discharging machinery with a capacity of from 800 to 900 tons per day.

The depth of water at the usual discharging berth is twenty-three feet, although steamers of twenty-seven feet draft can be accommodated. The increased demand for coal due to these improved bunkering facilities, has raised the consumption of the port to over 700,000 tons per year of which 550,000 tons are from England. So successful has the project been indeed, that the same company is now negotiating for the extension of its privileges to the ports of Southern Spain, especially Valencia.

The control of the port and port charges rests in two authorities—one local and one central, though a single set of officers in most cases supplies both services. The central government, in pursuance of a comprehensive plan for the maintenance and improvement of all Spanish harbors, makes what is called a "transport tax" of 2.30 pesetas (about thirty-six cents)

per ton, and a local "port-works" tax of an equal amount is levied for and administered from Barcelona. Independence of action in the local authorities is, however, apparent rather than real, as all the plans for extensions or for special concessions are subject to review at Madrid.

On the whole, this control by the central authorities seems to have been exercised with intelligence and with a realization of the local needs. The commerce has steadily grown, and though the harbor is not yet equal to the demands of the industrial interests of the city, still it is a credit to the community it serves. The extent to which the port of Barcelona has entered into the commerce of the world, does not, of course, bear comparison with the thriving centers farther to the north, but when compared with the decadence of a generation ago the showing is satisfactory indeed.

There are at present the following services: Two steamers a month from Barcelona to New York regular lines going to Alexandria, Egypt and the Mediterranean ports, and sixteen Spanish shipping companies with regular sailings from Barcelona. Besides this the city is a port of call for five Italian, four French, three British, two Austrian, two German lines and one each of Belgian, Dutch and Norwegian nationality.

This is a showing unequaled by any other port of the Kingdom, and remarkable when the conditions of a generation ago are called to mind. The prosperity of Barcelona and the condition of its ports are tributes to the industry and genius of Catalonia, and the most reassuring signs of the development desired by "Young Spain" for the country as a whole.

ANTWERP, BELGIUM

By Henry Ralph Ringe, Philadelphia

The port of Antwerp, located sixty miles from the mouth of the River Scheldt, is situated in the center of a rich and thickly populated manufacturing district, and is a most convenient exit for the greater part of the trade of Europe, since it takes the trade of Belgium, Northeastern France and part of Germany.

The trade is continually assuming larger proportions, an evidence of which is the fact that in 1902 Antwerp was the headquarters of sixty shipping companies. The growth in the amount of shipping entered at the port is shown by the following table:

Date	No. of ships.	Tonnage
1880	4,626	3,117,754
1890	4,532	4,517,698
1899	5,420	6,842,163
1904	5,852	9,398,503
1905	6,034	9,846,707

Slightly more than one-half of the tonnage consists of imports, the principal articles being grains of all kinds, raw textile materials, mineral ores,

provisions and animal products. The exports, on the other hand, are manufactured articles, wrought metals, railway carriages, cement and glassware.

The River Scheldt, a winding river with banks of sand, has a tidal variation of between twelve and twenty-five feet at Antwerp. At the river front it is between three hundred and fifty and six hundred yards wide, and at extreme low water will admit vessels drawing twenty-five feet.

This tidal variation has made necessary a system of docks with an unchanging water level for the convenient loading and unloading of smaller vessels, and the width and depth along the river front has made possible its utilization for the construction of a fine system of quays for the use of the large ocean liners.

There are eleven docks which range in length from five hundred and seventy-four feet to two thousand six hundred and forty feet. All are connected with sluices. The sides of the docks are crowded with warehouses, and all are equipped with the modern loading and unloading facilities. The widest entrance to the docks is seventy-eight feet and the depth is twenty-one feet, thus the larger vessels cannot enter except for drydocking when light.

The system of quays is growing very rapidly and now exceeds three and one-half miles in length. The water at the quays is twenty-six feet deep at low tide, the mean rise of the tide being fourteen feet.

In 1902 the quays and docks could accommodate about two hundred and twenty vessels at one time, but even this proved insufficient to meet the growing requirements of the port, so an extension was decided upon which would accommodate twenty more vessels.

The facilities for unloading the vessels are very unusual. There are fifty miles of railway around the quays and docks, and the goods intended for immediate delivery can be transferred directly from the vessel to the railway trucks, or, if it is merchandise to be trans-shipped, the corporation wagons are in attendance to transport it immediately from one vessel to another. There are about two hundred hydraulic traveling cranes, which lift the goods directly from the ships into the sheds. These sheds extend all along the sides of the quay within twenty-five feet of the front. They are about one hundred and seventy-five feet wide and are divided by spaces just sufficient to allow the railway trucks to pass from the front to the rear of the shed. After the goods are landed the merchants are allowed four or five days in which to clear their goods from the sheds free of charge. After this time the authorities can place the goods where they choose at the expense of the merchant.

The municipality is the port authority at Antwerp, and all the management, with the exception of the private warehouses, is in its hands. The docks are solely the property of the city, but the quays along the river side are not absolutely the property of the city, since they were constructed some years ago with the funds partly provided for by the government and partly by the City of Antwerp. An arrangement exists between the town authorities and the government by which the municipality receives all dues and then pays the government a certain proportion.

The working of the port is controlled by the town council, who are advised by a committee, which includes the chief engineer of the town, the chief engineer of state railways, the inspector of customs and the president of the chamber of commerce. The government of Belgium also exercises an effective control because it acts as conservators of the river and aids in carrying out the extension of the quay walls and the river accommodations. The government gets no interest on its outlay, but is paid thirteen-fifteenths of the earnings of the quays until its capital outlay is repaid.

The port of Antwerp has exceedingly low charges for port dues. This is partly because of the fact that the imperial government has largely contributed to the cost of improvements and has foregone all imperial dues, and partly because the municipality has made it a point to keep the charges on shipping as low as possible. The port expenses of the shipowner are best considered under two heads: First, port dues, and second, port charges. The port dues per ton net register are about 10½ cents per ton at the docks and about .06 3-10 cents at the quays. These charges are subject to a reduction on a vessel making repeated voyages in a year. The port charges are better understood by dividing them into two heads:

1. Charges in connection with the navigation of the vessel, namely, pilotage.

2. Charges in connection with the cargo, namely, loading and unloading.

These are different from the dock dues, since they are for direct personal services and have to be paid either directly to the individuals or indirectly through the authorities to whom the individuals are responsible. The pilotage at Antwerp is compulsory and is a little over 7½ cents per ton net register; while the expenses for discharging the cargo, which consists in passing it from the vessel to the consignee or those receiving it in his behalf on the quay, depend upon the price of the labor of the dockers, which is about one dollar per day.

Many suggestions have been made for improving the harbor, but the most important so far offered is to divert the River Scheldt by making a cut across the bend in the river, known as the *Grande Coupure*, and to utilize one of the banks for new river berths. The people of the City of Antwerp are not eager for this change, but would rather have one long dock over practically the same route as the Grande Coupure, with locked entrances at both ends, and then from this main dock have several branch docks. All the land necessary for the scheme is to be purchased by the government and then additions gradually will be made.

Another very valuable suggestion has been made in regard to the sheds. The authorities are not satisfied with the open sheds and have proposed the scheme of having sliding doors. They also propose to have a double line of sheds three hundred and fifty feet wide, so that the front shed could be used for outgoing goods and the rear shed for incoming goods. This, together with a corresponding increase in the number of rails, will be a most valuable addition to the facilities for handling the cargoes, and when these suggestions are carried out, which in all probability will be soon, Antwerp will be able to welcome any great increase in trade with adequate facilities.

OUR STATE CONSTITUTIONS

BY

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PHILADELPHIA

THE AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE

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CONTENTS

OUR STATE CONSTITUTIONS.[1]

CHAPTER I.

General Tendencies in State Constitutions.

Throughout classical and medieval philosophizing runs a theory of a paramount or fundamental law, permanent in kind, because fixed in nature. This theory in its modern form, after voicing itself for a time in the Cromwellian period, came to the front in the American Revolution, and found its proper expression in the written constitution. In our federal system, owing to the rigidity of the national constitution, the development of that document must be traced in the varying decisions of the supreme court of the United States. In the commonwealths a more flexible system of amendment prevails, and for that reason changes in what the states consider to be their fundamental law, may be traced more easily in the constitutions themselves, subject as they are to frequent revision and amendment.

In the revolutionary period these constitutions were few in number, small in size, and contained a mere framework of governmental organization. Since that time some two hundred state constitutions have been made or revised. The forty-five now in force average in length over fifteen thousand words, the longest, that of Louisiana, having about forty-five thousand. In place of fundamentals only, they are filled with details, so petty in many instances, as hardly worthy even to be dignified as statutory.

This tendency to enlargement is not without justification. The proper solution of problems arising from the complexity of modern interests, demands more wisdom and knowledge than is usually found in legislatures, which are often incompetent and sometimes venal. The democratic demand for legislation through convention, is really a demand for legislators of a high grade. To legislatures in consequence are left the mere details of legislation with a minimum of discretion in the formulation of statutes.

[1]Read December 27, 1906, before the Third Annual Meeting of the American Political Science Association at Providence, R. I.

Their ability in this sort of thing is well seen in the biennial output by the states of nearly twenty thousand statutes, three-fifths of which are local, private, or special in kind.

Our present state constitutions represent different stages of development and may be divided into four sets: (1) the six New England constitutions, (2) the ten made during the twenty-five years ending with 1865, (3) the fourteen made from that date up to 1886, and (4) the fifteen new and revised constitutions of the last twenty years. Three more will likely be added to this number within the next twelve months,[2] and an average of one per year may be expected from that time on. The process of amendment, through which about twenty additions are made annually to our constitutions, tends to modernize all of these.

A comparison of these sets shows that the starting point for the study of state constitutions is the article on the lawmaking department. This powerful body in revolutionary days completely overshadowed the other two departments, and was practically the repository of the sovereign powers of the state. Though the theory of the separation of powers was held, all really important powers were in fact entrusted to the legislature. This is by no means the present condition. Not only have the other two departments been built up and strengthened at the expense of the assembly, but three other departments of government have developed into importance, and should be considered in any discussion of the division of sovereign powers. If the government is that organization through which all the sovereign powers of the state may be expressed, then surely in modern times we should speak not merely of the three historic departments of government, viz., the executive, the judicial, and the legislative, but also of the differentiations from these, the administration, the electorate, and that nameless agency, which in every state has the legal right to formulate the fundamental law, an agency which, for want of a better name, may be called the *Legal Sovereign*. These six departments unitedly may exercise every conceivable power included within the term sovereignty.

The general tendency in regard to these six departments of government, as shown by our existing constitutions, will be indicated in order, and then attention directed to the lengthy series of limita-

[2] Oklahoma, Michigan, and possibly Iowa.

tions placed on the exercise of other powers not removed from legislative discretion.

I. *Administration.*—Historically administration is of course part of the executive function, but in our revolutionary period it was at first controlled and in part carried on by the legislatures. This was done through committees, temporary and then permanent. The work performed by these was gradually transferred to paid officials, who, as functions became specialized, were organized, for the purpose of carrying on the work of administration, into the numerous boards, commissions, and departments of government. Most of our states are still in this stage of development. Every new line of activity results in the formation of a special board or department, the organization and powers of which are frequently defined in the constitution. This also regularly provides for the election by popular vote of the heads of the chief administrative departments, such as the secretaries of state and of the treasury, the comptroller, or auditor, and the superintendent of education. As these numerous boards and departments really perform the larger part of governmental business, it is surely advisable that the several articles and provisions of the constitution be gathered together and placed under a separate heading entitled, departments of administration. Their functions also should be coördinated, unified, and thoroughly supervised. The absence of such centralization is perhaps the greatest weakness in local administration. Supervisory control over such bodies by legislative committees tends to become merely nominal, with the inevitable consequences of inefficency and lack of economy. There is however a strong tendency to center such powers in the executive, making him the head of the administration as in the national system. This is done by bestowing on him large powers in appointment and removal, authority to demand reports, and to investigate the management of departments.

II. *The Executive.*—Aside from control over administration, the chief gain in power on the part of the executive is his veto over legislation. In 1788 two states only had placed the veto power in their constitutions, at this time but two states withhold it. Thirty-one states adopt the national fraction of two-thirds of both houses to override the veto, the other twelve prefer a majority or three-fifths. Thirty states now allow the governor to veto items of appropriation

bills, and three of these also allow him to veto part or parts of any bill. If adjournment intervenes between the sending of a bill to the governor and its return approved or vetoed, ten states allow the governor a period of from three to thirty days to decide whether or not to approve such bills. Eighteen states allow him to file objections with the secretary of state, thereby defeating the bill. The veto power, especially when strengthened by the power to veto items and to approve or disapprove after adjournment, has aided greatly in the enlargement of the importance of the executive and in the conservation of public interests.

The governor's term of office is four years in twenty-one states, two years in the same number, three in New Jersey and one year in Massachusetts and Rhode Island. The office of lieutenant-governor is still retained in thirty-two of the states. He presides over the senate in thirty of these. In Massachusetts and in Rhode Island, he is a member of the council, or of the senate, *ex-officio*, but presides only in the absence of the governor, who by constitution is presiding officer. The old-fashioned executive council is still retained by three of the New England states, and a modified form of it in North Carolina. Iowa by statute has an executive council made up of the governor and the heads of three departments.

III. *The Judiciary Department.*—The older constitutions disposed of this department in few words. Discretionary power was conferred on the legislature, and judges, appointed by governor or legislature, usually held a life tenure. The newer constitutions completely reverse this practice. The court, in the United States, does not simply decide cases, it interprets finally the constitution, and to that extent is a political factor. For this reason complex business conditions and the rise of corporate interests, necessitate much more attention to this department of government. The constitution of Louisiana, for instance, devotes about twelve thousand words to the courts of the state and of the city and parish of New Orleans. The newer constitutions regularly outline the grades of courts, define their powers, set the boundaries for judicial districts, and regulate the number and tenure of the judiciary. Three of the original states still retain a life tenure, but all others fix a term of years for judges of the supreme court; the term varies from two to twenty-one years. Twenty states favor the six-year term, eight and twelve years are the terms next favored,

three states have long terms, and Vermont a two-year tenure. Six states only retain appointment through the governor aided by council or senate. Four choose through the legislature, and one nominates through the governor and elects through the assembly. The other states all elect their judiciary and show no tendency in the other direction. Four of the New England states still allow the governor or assembly to ask the supreme court for opinions on questions of law,[3] South Dakota and Florida allow the governor this privilege, but all the other states with greater wisdom reject this provision. There is a marked tendency in the constitutions to merge law and equity into a common procedure, to modify the jury, to define libel, and to safeguard the exercise of eminent domain by quasi-public corporations. All these tendencies unitedly show a strong determination to make the judicial system responsible directly to the electorate.

IV. *The Constitutional Convention.*—The modern theory of a fundamental law, and its embodiment in the written constitution, have necessitated the development of a governmental agency for the express purpose of formulating the fundamental law. Two forms of this agency are in use among the states, the legislature and the convention.

(1) The legislature in the performance of this office is not properly a legislature, but a convention. This is shown by the fact that its recommendations are not sent to the governor for his approval or veto, but to the electorate for final decision. The older method of amendment was through the action of two assemblies and large fractional votes by assembly and electorate. At the present time action by one assembly is sufficient in twenty six states. Eighteen still require two assemblies, and the remaining state (New Hampshire) amends only in convention. All but Delaware use the referendum for final decision. Seventeen of the constitutions still require a two-thirds vote of both houses on amendments; seven, a three-fifths vote; in sixteen a majority is sufficient. Only two states require more than a majority for referenda, Rhode Island (three-fifths), and New Hampshire (two-thirds); the usual requirement, that of twenty-eight states, is "a majority of those voting thereon," but a few make amendment

[3]Massachusets, Maine, New Hampshire, Rhode Island.

well nigh impossible by requiring a majority of the electors, or a majority of those voting at a general election.

(2) Few seem to realize the importance of the constitutional convention in American state governments. It is the great agency through which democracy finds expression. In its latest form, that of a body made up of delegates elected from districts of equal population, it is one of the greatest of our political inventions. Through it popular rights may be secured in the constitution, legislative tyranny restrained, and powerful interests subordinated to the general welfare. Not that these objects have as yet been attained, but the agency is here through which an enlightened public opinion can express itself.

All but thirteen of the states expressly provide for the calling of a convention. In twelve of the thirteen, conventions can be called under legislative authority. In one state only (Rhode Island) is there doubt about the matter. Its supreme court in 1883, when requested by the senate for an opinion, in its reply concluded that under the state constitution a convention could not be called. Judge Jameson, however, in his great work, On Constitutional Conventions,[4] in discussing this opinion reaches the opposite conclusion. If the composition of the convention is mentioned at all in the constitution, the usual provision is that it be made up of representatives from districts of equal population. There are, however, a few exceptions. Since the year 1890, under the older theory that the convention is the repository of sovereign powers, five constitutions have been promulgated by conventions without referendum.[5] To check this possibility, fourteen constitutions expressly require the referendum, and the other states would likely do so by statute.

V. *The Electorate.*—If this body, instead of being referred to as the "sovereign people," should be treated, from the legal standpoint at any rate, as a governmental agency, clearness in discussion would be gained. Under the constitutions this governmental agency has three sets of powers: (1) the power of appointment to certain offices through elections; (2) the power to assist in lawmaking through the referendum and to some extent through the initiative, and (3) the power to assist in judicial decisions through

[4]Fourth ed., pp. 601–615.

[5]Mississippi, South Carolina, Delaware, Louisiana, Virginia.

service on jury. These powers are steadily increasing through the agency of the convention. The chief officials of the state and municipality, the lawmakers of all grades, and judges, supreme and inferior, are now regularly elected by popular vote. The verdicts of juries are now often made by a fraction of the whole, instead of by unanimous vote. The referendum is generally required for final decisions on fundamental law, and very largely on local and general statutes. The most remarkable development of this power may be found in the constitution of Oregon since its amendment in 1902. By this the power of initiative and referendum is fully secured to the electorate, both in statutory and constitutional provisions. These powers of the electorate are plainly specified in the constitutions and are clearly governmental in kind, as truly so as any other of the agencies of the state.

The usual basis for membership in the electorate is that they be male citizens of the United States at least twenty-one years of age. Nine states still allow aliens to vote who have declared their intentions to become citizens, four states grant suffrage to women, eight states have a slight educational qualification, six other states have an educational qualification as one of several alternatives, and three of these introduce a property qualification as an alternative, but otherwise, this historic restriction survives only in Rhode Island, in the election of members of city councils.

VI. *The Legislature or General Assembly.*—The revolutionary constitutions differed widely in respect to the organization and membership of their legislatures. Very noticeable, however, is the present tendency to approximate toward a common type. In all the states the legislature is bicameral. Thirty-eight states elect the members of the house biennially; senators have a four-year term in twenty-nine states, and twenty-four provide for a system of class rotation in the senate. A biennial session is required in thirty-eight states, and thirty-one fix actually or practically a time limit for legislative sessions; this in eighteen states is fixed at sixty days. The membership of the state legislatures is unitedly about seven thousand, but nearly two thousand of these are found in the seven[6] states that have assemblies of over two hundred members. The size of the membership in each house naturally varies with the population of the state, but if the seven mentioned

[6]Illinois, Georgia, Pennsylvania, Massachusetts, Vermont, Connecticut, New Hampshire.

above be omitted, the general average is a membership of about thirty-five in the senate and ninety in the house. The house membership is regularly from two to three times that of the senate.

In seventeen states the membership of both houses is made up of representatives from districts of equal population. In nineteen other states there is a requirement that a locality, either county or town, be represented in one or both houses. In these states, however, the requirement modifies only slightly the principle of popular representation, and the districts are practically of equal population. In other words thirty-six of the states make their legislative houses popular in basis. The nine other states depart from this principle by requiring a disproportionate representation for their rural towns, or countries of small population. The worst offenders in this respect are Delaware, Maryland, Vermont, Connecticut and Rhode Island.

Limitations on Legislatures.—Under the national constitution the powers not delegated to the federation nor prohibited to the states are reserved to the states. This reserved power may be exercised in each state by its legislature, unless the local constitution redelegates parts of this power to the other departments of government, and places restrictions and prohibitions on legislative use of the remainder.

One would think that since our legislators usually come from districts of equal population they would by constitution be entrusted with large discretionary powers in legislation. This, however, is far from being the fact. There is a steadily increasing tendency to restrict in every possible way the enormous powers of legislatures. In general the length of a constitution indicates the amount of restriction placed on lawmaking. Every provision in a Bill of Rights limits by so much legislative initiative. The rapidly increasing powers of the executive and the electorate in appointment, administration, and lawmaking are all at the expense of the assembly; the growth in importance of the constitutional convention subordinates proportionately its rival, the legislature. Every article in the constitution that fixes the organization and powers of a department of administration, or division of government, or defines a policy in regard to important interests, is to that extent a restriction on legislative discretion. Yet in the newer constitutions one may expect to find, as already indicated, lengthy

articles on the judicial and administrative departments, and moreover much regulation of taxation, finance, local government, education, elections and the suffrage; land, mines, corporate interests and labor. To these regulations should be added long lists of prohibitions such as those against special or local legislation, and numerous regulations of procedure in respect to the handling of bills. Subtract all these limitations on legislative powers from the totality, and the question may then well arise whether it will ultimately prove worth while to retain an expensive legislature to exercise its small residue of petty powers. A convention meeting periodically, and well supervised administrative departments with ordinance powers, might perform all legislative functions with entire satisfaction.

It seems plain that the really important lawmaking body at the present time is the convention. Its members are of a higher grade and turn out work distinctly superior to that of legislatures. These really are bodies having chiefly ordinance powers. Whenever, through sudden changes in conditions, a legislature unexpectedly develops large discretionary power in statute-making, the next convention in that state settles the principle itself and thereby adds another limitation to legislative initiative. If this tendency continues, the biennial session will become quadrennial, the term be limited to forty or sixty days, and every inducement offered our legislators to do as little and to adjourn as speedily as possible. On the other hand if our states can make improvements in the legislative system, and select a better grade of legislators, our lawmaking might continue to be entrusted to legislatures, whose members, as the early constitutions of Maryland and Vermont put it, should be persons "most wise, sensible, and discreet," and " most noted for wisdom and virtue."

In conclusion, attention may well be called to the practical disappearance from our constitutions of some old-time provisions. Among these may be mentioned the annual election, and the annual session, the governor's council, and unequal representation of the people in lawmaking bodies; the life tenure of judges, and the advisory capacity of the supreme court. Religious restrictions on office-holding, and the property qualification for suffrage, with very slight exceptions, have gone; the town system of New England is dying in that section and does not exist outside of it. The

real local units of administration now are, (1) the rural county with its numerous subdivisions, and (2) the incorporated city, both of which are gaining power throughout the United States.

If general tendencies in the making of constitutions may be condensed into a sentence, we may say that governmental powers are centering into the electorate, which voices itself through the ballot and the convention.

CHAPTER II.

The Making of Constitutions.

The Written Constitution.—The United States has made many a contribution to the theory and practice of modern politics. Among these by no means the least is the written constitution. Developed during the throes of the Revolution, one hundred and thirty years ago, it, and its agency the convention, have been the chief means through which democracy has made its demands and fixed them in the law of the land. A convention, democratically organized, voices the will of the people. This will, formulated into the fundamental law, is a guaranty of life and liberty, and a surety against governmental injustice and tyranny.

Thomas Jefferson, the apostle of American democracy, used to argue that the constitution of every state should be revised at least once every twenty years, so as to allow each generation to determine for itself its fundamental law. His argument is even more true since his day, for the conditions of life so rapidly change through advancing civilization, that modifications in fundamental law must be made at frequent intervals. These modifications, as Judge Jameson[1] puts it, are regularly made through a legislature and the referendum, when the purpose "is to bring about amendments which are few and simple, and independent;" but a new constitution or a revision of an existing constitution, demands the services of a convention, which "only is appropriate or permissible."

Our state constitutions, both past and present, so reflect the changing conditions and varied interests of our country, that a study of them affords a perfect mirror of American democracy. No one can arise from this study without a full conviction that our political institutions are established on firm foundations, and that we are slowly working out a mass of constitutional principles in harmony with morality and intelligence.

The earliest of our state constitutions are far inferior to those of later date. The statesmen of those days, though with the best of intentions, had not a full grasp of democratic principles, nor had

[1] On Constitutional Conventions, pp. 610–611, fourth edition.

they had much political experience in handling great governmental interests. Since their day over two hundred constitutions have been made in this country alone, and the conflicting experiences of our numerous states supply ample material for study. Consequently, it is entirely possible for a state, profiting by past experiences and present constitutions to prepare a fundamental law, which shall express the best American political ideals and practices. It is hoped that this series of papers may prove of some slight help at least, in promoting this possibility.

Constitution Making.—Historically our present state constitutions represent four distinct periods of political development. The first set[2] is composed of the constitutions of the six New England states. These are old-fashioned in type, are fundamentally based on the outgrown system of town government, and are so difficult of amendment that they retain many obsolete features, and therefore are no longer suitable as models for modern states. The best of these is the constitution of Massachusetts. The combination of ultra-conservative rural towns and a mass of immigrant population ignorant of our political institutions, affords little hope that these constitutions can be modernized without long agitation and considerable difficulty. The second set[3] consists of those constitutions made in the period embracing the twenty-five years before the ending of the Civil War. These ten constitutions are democratic in principle and excellent in tone, but do not include the experience of later years, except as some of these have crept in through amendment. The third set,[4] fourteen in number, represents in the main the changes necessitated by reconstruction in the South, and by economic changes North and South, as the result of the war. The last set, fifteen in number, consists of two groups, one made up of the seven[5] new mining and agricultural states of the Far West, and the others,[6] representing later read-

[2]Vermont, 1793; Massachusetts, 1780; New Hampshire, 1784; Connecticut, 1818; Maine 1819, and Rhode Island, 1842.

[3]New Jersey, 1842; Wisconsin, 1848; Michigan, 1850; Indiana and Ohio, 1851; Iowa, Oregon, Minnesota, 1857, Kansas, 1859; and Nevada, 1864.

[4]Maryland, 1867; Tennessee and Illinois, 1870; West Virginia, 1872; Pennsylvania, 1873; Arkansas, 1874; Texas, Missouri, North Carolina and Nebraska, 1875; Colorado, 1876; Georgia, 1877; California, 1879, and Florida, 1886.

[5]North Dakota, South Dakota, Montana, Idaho, Wyoming, Washington, in 1889; Utah, 1895.

[6]Mississippi, 1890; Kentucky, 1891; New York, 1894; South Carolina, 1895; Delaware, 1897; Louisiana, 1898; Alabama, 1901, and Virginia, 1902.

justments to changed economic conditions since the war, and in the South readjustment in the matter of negro suffrage.

Besides these constitutions there is an annually increasing mass of amendments added through legislature and referendum. In the decade from 1894–1904 three hundred and eighty-one amendments were voted on by the electorates of the several states, two hundred and seventeen of which were adopted and one hundred and sixty-four rejected. Evidently a knowledge of these amendments also is necessary, representing as they do the current contribution of politics toward the supposed defects and shortcomings of existing constitutions.

The length of recent constitutions is one reason for so large a number of amendments. The earliest constitutions seldom contained over five thousand words and averaged much less. Now, the shortest constitution (Rhode Island) contains about six thousand words, the average is about fifteen thousand and five hundred, and the three largest are codes in themselves.[7] This lengthening of constitutions is to some extent due to a failure on the part of constitution makers to distinguish between fundamental and statutory law, coupled with a natural desire to magnify their importance as lawmakers; but it is chiefly due to two causes: (1) the growing complexity of modern life and the rise of many new interests that seem to demand attention; and (2) there is so great a distrust of legislatures, and charges of incapacity and corruption are so common, that conventions incline to limit and regulate in every possible way the powers of legislatures, so as to reduce the possibility of mischief. Time and experience will probably remedy this wordy defect and it is not likely that any future constitution will surpass in size that of Louisiana. Constitutions so verbose require frequent amending. The first legislature of Louisiana, for instance, after the adoption of its unwieldy constitution, submitted one amendment; the second legislature, six; and the third legislature fifteen. Such a system hopelessly confuses the distinction between fundamental and statutory law, and is unnecessary if conventions understand their business.

They can in many cases omit whole articles, sections, or paragraphs. They can omit very many petty details that might be

[7] Alabama uses thirty-three thousand words, Virginia thirty-five thousand, and Louisiana, about forty-five thousand.

left with perfect safety to legislatures. If more attention were paid to improvement in the quality of legislators, matters of still larger importance could be wisely left to their discretion. This improvement can be obtained by the use of smaller houses, longer terms, and better pay, supplemented by efficient primary and election laws. Again, the referendum is now so well understood that it can be effectively used, along with the governor's veto, as a check on vicious legislation. In other words the real check on a legislature is not secured by turning the constitution into a statutory code, but by making use of the experiences of our states and their most successful devices in securing efficient government.

Miscellaneous Matters.—A comparison of constitutions shows that a constitution regularly consists of a preamble, an enacting clause, a bill of rights, articles on the several departments of government and their subdivisions, an article defining suffrage privileges, an article of miscellaneous provisions, an article devoted to amendment and revision, a ratification clause, and a schedule containing provisions of temporary importance, such as arrangements for the substitution of the new for the old order of things.

The *Preamble*, which is a statement of reasons and purpose, is regularly included in the same paragraph as the enacting clause (Delaware's is an exception). In general it follows the thought of the preamble of the national constitution, but differs in that some reference to God is regularly found in the preambles of the states.[8]

In thirty enacting clauses the wording is: "We, the people . . . do ordain and establish." In most of the others the wording is either "We, the people . . . do ordain," or "We, the people . . . . establish." Maryland says, "We, the people . . . declare," three states omit the pronoun *We*, and one state, Tennessee, says, "We, the delegates." The most concise clauses may be seen in the constitutions of New York and Michigan. A lengthy type is that of Massachusetts.

In three of the constitutions,[9] the *Bill of Rights* comes first after the enacting clause or preamble, and before the articles. In thirty-three constitutions it makes the first article, in seven it is either the second or third article, in one, South Dakota, it is the sixth. One state, Michigan, more wisely omits it entirely by name, but

[8] But see Chapter X.

[9] Florida, Kansas, Maryland.

inserts its usual provisions under their proper heads in the main body of the constitution.[10]

Twenty-one of the constitutions contain each an article defining the boundaries of the state. This is not a matter over which the state has final jurisdiction, and the article properly is omitted in most of the constitutions. Thirty of the constitutions contain a short, but unnecessary article on the "Distribution of Powers." Seventeen of the thirty use this particular title, but the other thirteen use seven variations of this wording. Seven of the other fifteen constitutions mention the separation of powers in other articles, but the other eight save space by omitting it entirely. A simple form of the article may be found in the constitution of Rhode Island, the ordinary form is that of Indiana, and an exaggerated form is that of Alabama, which copied the substance of its provision from Massachusetts. In arranging the order of the usual three departments of government, the arrangement regularly is, legislative, executive, judicial; but three states[11] place the executive before the legislative, following the historical order, rather than the order of importance. As the electorate represents the people, there is a marked tendency in many of the constitutions, seventeen in all, to place the article on suffrage among the first, as though to emphasize the precedence of the voters over the several departments of governments. This article logically should be called The Electorate, or Qualifications for Electors, but as a rule some variation of the term Suffrage is used instead.

A curious feature of some constitutions, old and new, is the insertion by requirement of congress, of an ordinance, which may not be repealed without the consent of congress, Article III in the constitution of Utah for example. Congress has full power to demand that a territory place certain articles in its constitution as a prerequisite to admission. Once the territory becomes a state, however, the obligation to retain such articles is probably moral, not legal. Otherwise, it would be hard to say just how such "irrevocable" articles can be reconciled with any constitutional theory of the equality of states in their local sovereignty. It might be interesting to speculate as to what would happen if one of these states should later deny the right of congress to place perpetual

[10]For instance under Articles IV, VI, and XVIII.

[11]Colorado, Kansas, Maryland.

limitations on its sovereignty as a state of the Union. Territories, however, in becoming states have learned not to "look a gift horse in the mouth," and congress in its turn may prefer to ignore the fate of such articles after the lapse of a few years' time.[12]

The *Schedule* is now regularly found in most of the constitutions (32), though almost unknown in the earlier constitutions and not now always essential. Its place properly is as an addition to the constitution, not as a part of it, since its provisions are of temporary importance only. Seventeen constitutions, however, include it in the constitution itself as one of the articles. In some cases this is due to a failure to keep the schedule for temporary provisions only, matter being inserted which might more properly go under Miscellaneous Provisions.[13] The better place for the schedule may be seen in the new constitutions of Delaware, Alabama and Virginia, though it might more correctly be placed after the ratification clause, so as to keep it entirely separate from the constitution. Its authority could be attested by the signatures of the president and secretary of the convention as in the case of ordinances. So much space is taken up in constitutions with apportionments of districts and their boundaries, that the question arises why these should not be placed in the schedule, and authority given the legislature to alter them at its discretion, without referendum. The use of the *ordinance* is well illustrated in the work of the last convention that made a constitution for South Carolina.

A matter of some little importance is the method of numbering the several sections of the constitution. A cumbersome and old-fashioned system may be found in the constitution of Massachusetts. The others, with some exceptions, use the plan of the national constitution, viz., articles numbered with Roman numerals subdivided into sections with Arabic numerals. Louisiana, Mississippi, Kentucky, Alabama, Virginia and North Dakota much more sensibly imitate the earlier French constitutions, and number paragraphs consecutively with Arabic numerals, inserting titles in their proper places with or without Roman numbers. New Hampshire uses the same system, except that its constitution is divided into two parts, and each is numbered consecutively.

[12]The enabling act for Oklahoma is unusually severe in its requirements of this sort.

[13]This article may be overworked. Texas, for example, has fifty-seven sections in its General Provisions.

CHAPTER III.

Amendment, Revision, and Bills of Rights.

Amendment and Revision.—The amending article of a constitution undoubtedly demands most careful attention. In some respects it is its most important article. It may be so worded as to make the constitution practically unalterable and thereby hinder progress. Many of our states are thus hindered and can find no way out of their dilemma. Such blunders in phraseology would be entirely unnecessary, if conventions were familiar with the experiences of many of our states, and with the development of our processes of amendment. An explanation of these processes will now be set forth, as briefly as the importance of the subject will admit.

Some of our earliest state constitutions contained no provisions for their amendment. This proved no bar to alteration, for they were amended or revised like ordinary legislation or in convention. Gradually provisions were introduced authorizing the legislatures to submit amendments for popular approval or rejection. In some constitutions there was a further provision that an entire revision might be made by a convention convoked for that special purpose. This body was usually called together by the legislature, but in two states, Pennsylvania and Vermont, by a special body known as the board of censors, which was empowered to convoke a convention and to submit amendments.

In recent years at least five legislatures have authorized special commissions to recommend amendments, viz., New York, 1872; Michigan, 1873; Maine, 1875; New Jersey, 1881; Rhode Island, 1897. In Louisiana a joint committee of both houses prepared in 1894 a series of about twenty amendments. The reports of two of these commissions, Michigan and Rhode Island, were not simply amendments to the constitutions, but complete revisions thereof. Both these revisions were rejected when submitted in Michigan, March, 1874, and in Rhode Island, November, 1898, and again in June, 1899. The report of the New Jersey commission was never finally acted on, and the reports of the Maine and

New York commissions were adopted in part. The Louisiana report was entirely rejected at the polls in 1896. At the present time boards of censors are no longer used, and commissions can hardly yet be considered a permanent feature of our amending system. There remain, therefore (1) the method of revising through a convention especially convoked for that purpose, and (2) the method of amending through the initiation of the legislature and ratification by popular vote.

Revision.—All but thirteen[1] of the constitutions expressly make mention of a convention for the purposes of revision. It is now considered far better to do so. Although the best authorities assert that states can call conventions under general legislative powers, and nearly all have done so one or more times, yet it is far safer to insert the provision expressly, with such safeguards as will allow the use of a convention whenever necessity demands. Six states provide that the question of calling a convention must be submitted at stated intervals, every twenty years (Maryland, Ohio, New York), sixteen years (Michigan), ten years (Iowa), and seven years (New Hampshire); but in that case it is better to insert as New York does "and also at such times as the legislature may by law provide."

When constitutions authorize a convention, the usual procedure is that the legislatures submit the question to referendum. Nineteen of the states require that the referendum be authorized by a two-thirds vote of each House, nine require a majority and one a three-fifths vote. The real difficulty in calling a convention arises from the wording in regard to the referendum vote. No matter how much interest there may be in a state on the question, it is simply impossible to get a much larger vote on the referendum than about one-half of the usual vote at a general election. If therefore a constitution provides that a "majority of the voters of the state," or "a majority of all the voters voting at a general election" must vote for a convention, that state might almost as well give up all thought of ever holding a convention.

Fifteen states have such requirements and in consequence can hold conventions if at all only after years of agitation and expense.[2]

[1]Massachusetts, Connecticut, Vermont, Rhode Island, New Jersey, Pennsylvania, Mississippi, Louisiana, Texas, Arkansas, Indiana, North Dakota, Oregon.

[2]For late cases bearing on this question see State *vs.* Powell, 27 So. 927; Russell *vs.* Croy, 63 S. W. 849; *In re* Denny, 59 N. E. 359.

Twelve states more wisely word the requirement a "majority of those voting thereon,"and thereby avoid future trouble. Most of the constitutions (19) require that the referendum be submitted at a general election, but a few leave the time to the legislature or require a special election. Experience shows that it is safer to specify the basis of representation in the convention. It should never be the same as the legislature itself, though four states have such a provision, Maryland for example. Sixteen constitutions use the house as the basis, requiring that it be equal in membership to that of the house (Nebraska for example) or double (Wyoming) or based on population (Georgia). Delaware uses the house basis and adds two from each county, but there are three counties only in the state. Three require that it be twice that of the senate (Illinois, Colorado, Missouri), and New York requires that it be three times that of the senate plus fifteen elected at large. In the earlier years of our history conventions frequently promulgated constitutions made by them on their own authority, without referendum. After the first generation, however, the contrary held true in the main down to 1890. Since that year five conventions have promulgated constitutions without referenda.[3] Conventions have that power unless restrained by local precedent, statute, or constitution, and for that reason fourteen states require that no constitution go into effect unless ratified by the people. In some cases they also specify the vote, as in the case of a convention, viz., "a majority of those voting thereon" (6) or "a majority of the electors voting at the election" (4). The straits to which a state having this last requirement may be driven is shown by legislation recently passed in Nebraska 1901 and Ohio, 1902. Those laws declare that if a state convention of a political party declares for or against a constitutional amendment, such declaration shall be considered a portion of the party ticket, and that a straight vote for the party shall be counted as a vote for or against the amendment. How much better not to insert such requirements than to have to resort to such devices!

Voting on Amendments.—Constitutions regularly provide that when legislatures pass amendments the vote must be by yea and nay and recorded. Provision is also made for publication for a certain specified number of weeks or months before the election.

[3]Mississippi, South Carolina, Delaware, Louisiana, Virginia.

Publication is usually required to be through the newspapers but may be "after such publication as may be deemed expedient" (California).

Forty-four of our states provide methods of amendment, the exception being New Hampshire, which amends only through a convention. When constitutions were brief and contained nothing but fundamentals, the process of amendment was properly difficult. This was attained by the requirement of the action of two legislatures, and large fractions in voting. But when constitutions became lengthy as at present, the process had to become easier. This development may be seen in the following statements:

Eighteen states still require the action of two legislatures on amendments, one is sufficient in the other twenty-six. If sessions were annual as formerly, the requirement of two sessions meant a period of two or three years from initiation to referendum. But with biennial sessions the time lengthens to four or five years. One session, therefore, is naturally dropped. Of the states that still require the action of two legislatures Delaware alone uses no referendum. South Carolina and Mississippi have the referendum take place between the action of the two legislatures. Connecticut, Vermont, Massachusetts and Tennessee have variations in voting requirements and the other eleven[4] states have action of two legislatures precede the referendum.

Seventeen constitutions require that amendments be submitted by two-thirds vote of each House, sixteen require a majority only, and seven a three-fifths vote, Four of the states that employ action of two legislatures require one action by two-thirds vote and the other by majority.

The referendum requirement in twenty-eight states is "a majority of those voting thereon," fourteen have some variation of the objectionable "majority of electors" already referred to, Rhode Island requires a three-fifths vote, New Hampshire requires a two-thirds vote, and Delaware, as already said, uses no referendum for amendments. A general election is specified in twenty-one constitutions. To avoid "rider" amendments, twenty-eight of the States require that each amendment shall be submitted separately. Kentucky adds that each must contain one subject only, and Ala-

[4]Rhode Island, New Jersey, New York, Virginia, Pennsylvania, Indiana, Wisconsin, Iowa, North Dakota, Nevada, Oregon.

bama insists that the substance of each be printed on the ballot. Six states place limitations on the number of amendments to be submitted at one time, the number varying from two to six (Colorado as amended 1900). Five states forbid action on a rejected amendment until after a specified period, varying from four to six years (Tennessee). While it is fairly well understood throughout the United States by precedent and decision that the executive has no right of veto over actions on conventions or amendments, yet Alabama, Kentucky and Mississippi make assurance doubly sure by saying so.[5]

The Initiative and Referendum.—The most interesting experiment in constitutional amendment of recent years is found in an amendment adopted in Oregon June, 1902. This authorizes 8 per cent of the voters of the state to initiate amendments to the constitution. These, if presented four months previous to a regular election are voted on at the election, and a majority of votes in favor puts them into operation. Neither assembly nor governor has a voice in the matter. As Oregon's constitution heretofore has been almost impossible of amendment because of the difficulty of its requirements, there should result a vigorous application of the popular initiative so as to remove obsolete provisions. The new method has already been used effectively to bring about needed reforms, and its adoption by other states during the next few years may safely be prophesied.

Bills of Rights.—All states but Michigan contain in their constitution formal bills of rights. Twenty-two prefer the title Declaration of Rights, but twenty use the other form. Michigan places the essential provisions of the formal bill under their proper headings, such as Legislative and Judicial Departments, and thereby sets a good precedent. Maryland has the largest number of provisions, forty-five. Louisiana has the fewest, fifteen. Twelve states have thirty to forty; twenty-one have twenty to thirty, and ten manage to get along with less than twenty. A bill of rights properly should contain only broad general principles in regard to the purposes and spirit of government, and general instructions and prohibitions declaring the fundamental safeguards for life, liberty and property. These principles of liberty and democracy are now so thoroughly ingrained in our legal systems as hardly to

[5]For the last decision on this matter see Commonwealth *vs.* Griest, 196 Pa. 396

need explicit statement in a constitution, yet they will doubtless be long retained as assurances against possible legislative tyranny and as mementos of former struggles. They include guaranties of life, liberty, property, and happiness; freedom of conscience, speech, press, petition, and assembly; *habeas corpus*, open courts, a fair trial and the jury in cases of crime; the right to bear arms, to hold free elections, and to "reform, alter or abolish forms of government;" guaranties against unreasonable search, seizure, imprisonment or bail; and provisions in regard to treason, martial law, and imprisonment for debt. Evidently such provisions as these are well worth preserving in our fundamental law. On the other hand one may question whether it is worth while to retain references to the exploded theory of social compact, or to guaranty the right of emigration, or to insert provisions in respect to lotteries, lobbying, dueling, pensions, punishments, social status, contempt of court, tenure of office, and the rights of labor. Such matters may or may not deserve place in our constitutions, but surely not in a bill of rights. Again, when a simple right of earlier days becomes complex, it might better go into the main body of the constitution under its appropriate heading. Trial by jury, for instance, is frequently modified nowadays by waiving it altogether in certain kinds of cases, or by changes in the traditional number and the unanimous verdict. Such modifications properly belong to the judicial department. Again, the statement that "the property of no man shall be taken for public use without just compensation therefor" (Connecticut), is simple enough, but when this right is hedged about with numerous explanatory clauses[6] it might better be transferred to the legislative department.

In general it may be said that our numerous bills contain too many provisions of doubtful truth, of local or temporary importance and of details that properly belong to other articles. Many of the newer provisions found in some bills are in others placed under more appropriate headings in the constitution, so that there seems to be a real confusion as to what should or should not be inserted. There are some new provisions now very generally inserted in the later constitutions that are important enough to become permanent additions to bills of rights. Two at least are so important that a convention failing to insert them in substance somewhere

[6]See for example California, sec. 14.

in the constitution should be considered derelict in its duty. Thirteen constitutions for instance read, "No money shall ever be taken from the public treasury, directly or indirectly, in aid of any church, sect, or religious denomination, or in aid of any sectarian institution," and seven insert the provision that "Every grant or franchise, privilege or immunity, shall forever remain subject to revocation, alteration, or amendment."[7]

There are two provisions rather generally inserted in bills of rights which, though not so essential as they were once, yet deserve place for historic reasons if not otherwise. They are "The rights enumerated in this bill of rights shall not be construed to limit other rights of the people not therein expressed," and "The provisions of this constitution are mandatory and prohibitory, unless by express words they are declared to be otherwise." In conclusion of this topic it may be said that many states have found the substance of the first eight amendments to the national constitution to be the best basis for their own bills of rights.

[7]There are numerous variations of these two provisions in different articles of other constitutions.

CHAPTER IV.

Suffrage and Elections.

Suffrage.—Our States have the right to declare in their constitutions who shall exercise suffrage within their several jurisdictions. The restrictions on this power in the national constitution are simple and few in number.[1] Our democratic tendency is shown by the fact that, whereas in the revolutionary period the privilege of suffrage was held by less than 6 per cent of the population, it is now held by about 20 per cent. The per cent was even larger in 1870, but restrictions have since crept in. These several restrictions will now be indicated in turn.

It was once common in thinly settled states to allow aliens who had taken out their first naturalization papers to vote even in national elections. Nine states only still retain this provision;[2] six have changed within the last ten years.[3] Some of the nine would likely change if their constitutions could be amended with ease, for the tendency is to reserve suffrage privileges for full-fledged Americans only.

An educational qualification is rapidly passing into our constitutions through a belief that voters should be intelligent, and that this on the whole is best indicated by the ability to read and write. Such a restriction of course would be undemocratic if not coupled with provisions for a free and general education. Fourteen states now have educational restrictions, and these should be considered in two sets. Eight states compose the first set;[4] two require ability to read English (Connecticut and Wyoming); one to read and speak English (Washington), and the other five to read English and write the name. The other set[5] consists of six southern states which have an educational qualification as one of several alternatives. The details to these are too numerous to

[1]Art. I, sec. 2; Art. IV, sec. 2; Amendment XIV, sec, 1; Amendment XV.

[2]Arkansas, South Dakota, Indiana, Texas, Kansas, Missouri, Nebraska, Oregon, Wisconsin.

[3]Florida, Michigan, Minnesota, Alabama, Colorado, North Dakota.

[4]Connecticut, 1855 and 1897; Massachusetts, 1857; Wyoming, 1889; Maine, 1893; California, 1894; Washington, 1896; Delaware, 1897; New Hampshire, 1903.

[5]Mississippi, 1890; South Carolina, 1895; Louisiana, 1898; Alabama, 1901; Virginia, 1902; North Carolina, 1902.

specify, but, with the exception of Mississippi, which requires the ability to read or understand, all require the ability to read and write, Louisiana making the proviso that it may be in English or in the mother tongue.

The chief restriction on suffrage in earlier days was the property qualification. This still survives in many states in the form that referenda involving the expenditure of money shall be voted on by taxpayers only. Aside from this, the property qualification by 1890 had entirely disappeared from the United States except in Rhode Island, where there is a property requirement of one hundred and thirty-four dollars for suffrage in the election of members of city councils. Five constitutions in their bills of right formally state their objection in declaring that the holding of property should not be considered as affecting the right to vote and hold office. Since 1895 several of the southern states have introduced this restriction as one of the alternatives for suffrage. It was inserted as a temporary requirement by Virginia in 1902 and is a permanent requirement in the constitutions of South Carolina, Louisiana and Alabama. The qualification is the possession of property valued at the minimum of three hundred dollars. Those interested in the famous temporary provisions in certain southern constitutions intended to disfranchise the negroes, should consult the suffrage articles of Louisiana and North Carolina for the "grandfather" clause, and of Alabama and Virginia for the "old soldier" clause. An amendment relating to suffrage including a "grandfather" clause was rejected November, 1905, by Maryland.[6]

As women are citizens and all citizens by theory are entitled to the same privileges, women are entitled to the suffrage equally with men unless the constitution is worded or can be interpreted otherwise. Definite agitation for women's suffrage has been carried on since 1848, but in state elections small progress has been made. Four states at the present time allow women full suffrage.[7] Referenda on the question have been rejected during the last few years (1894–1903) by six states.[8] It is much more common (twenty-four states) to allow women suffrage in school and occa-

[6]See also article on Negro Suffrage, by John C. Rose, Am. Political Science Review, Nov., 1906.

[7]Wyoming, 1889; Colorado, 1893; Utah, 1895; Idaho 1896.

[8]Kansas, California, Washington, South Dakota, Oregon, New Hampshire.

sionally in library matters.[9] Kansas in 1886 granted women municipal suffrage, and Montana, Iowa, and Louisiana by constitution allow women taxpayers to vote on certain referenda involving expenditures. It is on the whole expedient for conventions in considering suffrage, to decide what privileges, if any, women are to have, and then to state them in express terms.

Registration is now a common form of restriction. The former prejudice against it may still be found in the constitution of Arkansas which declares that registration shall not be a prerequisite for voting. This is the only state retaining the provision, as Pennsylvania removed it in 1901 and West Virginia in 1902. About twenty constitutions expressly authorize registration, though legislatures could probably pass such laws under their general powers unless restrained by some provision in their constitutions. The restrictive feature in registration is that the person who claims for himself the privilege of suffrage may be required to present himself in person, by a certain date, and prove his right. The necessity of a personal application will invariably disfranchise a large per cent of the voters, who will neglect to make application. This will prove to be especially true if the date set is several months before an election. The excitement of a campaign would bring out many who otherwise will fail to register if the date set is early in election year. If the proof involves the presentation of naturalization papers or tax receipts it may be assumed that another large per cent of voters will fail to appear. If all these requirements are found, viz., personal application, a long time before an election, and prepayment of taxes or other proof, the list of voters may easily be cut in half. Add an educational or property qualification, and the task of counting voters will be reduced to a minimum. Space will not allow further details, but a study of the constitutions of the six southern states already referred to,[10] and a comparison of the votes cast in those states before and after the passage of such laws, will abundantly illustrate the utility of rigid registration laws as a means of restriction. These same southern constitutions will furnish illustrations of that other form of registration, in which the name of the person once registered is retained on the lists for life or for a specified term of years, the lists being corrected annually

[9]See for example the constitutions of Washington, North Dakota, South Dakota, Idaho, Montana, Minnesota.

[10]In the third paragraph of this chapter.

or biennially by the several boards of registration. It must not, of course, be understood that registration is merely a means of restriction. It is intended fundamentally as a safeguard against illegal voting, but it is clearly evident that it can be used to cut down considerably the number of voters.

Besides these restrictions there are in practically all constitutions prohibitions of suffrage to minors under twenty-one years of age, to idiots, insane persons, and persons convicted of crime. Some specify crimes in elections and dueling. This last of course would be a bill of attainder unless dueling were a crime by statute and conviction had taken place. There is also always a restriction in the form of a requirement of residence within the state, county and precinct. In the forty-five states there are twenty-five variations in the times set! On the whole it may be said that the average preference is one year's residence in the state (twenty-six states), six or three months in the county, and thirty days in the precinct. Seven states require a two years' residence, and eleven states six months. The constitutions also regularly contain a provision defining under what conditions a residence is neither gained nor lost.[11] The prepayment of taxes, property or poll, as a form of restriction has already been mentioned. It exists in a very few states. For examples, see Delaware, Pennsylvania, Tennessee and Texas (amendment 1902), in addition to the six southern states mentioned in the third paragraph of this article. The most stringent requirements will be found in the constitutions of Mississippi, Louisiana and Virginia.

Elections and Political Parties.—Thirteen of the constitutions include elections along with suffrage, under some common title, such as Suffrage and Elections. Two (Rhode Island and Kansas) have separate articles for each subject and the others as a rule scatter provisions regarding elections throughout the constitutions. It would add to clearness if all provisions in regard to elections and political parties were placed together under some appropriate heading, especially as unusual attention is being paid to such matters at present.

As congress in 1871 provided that elections for members of the house of representatives should take place in even years, on Tuesday after the first Monday in November, states have tended

[11]For example see California, II, 4.

to place their own elections on the same day so as to avoid duplication of expense and work. Four states, however, still prefer to use the odd years,[12] so as to separate state from national issues. The last to change from odd to even were Iowa in 1904 and Ohio 1905. Eight states still hold their general elections in months other than November, and three of these by special arrangement hold the national election at the same time (Oregon first Tuesday, June; Vermont first Tuesday, September; and Maine second Monday, September). Two states still retain the old-fashioned annual general election (Massachusetts, Rhode Island). New York and New Jersey elect their lower houses annually; three of the newer constitutions (Alabama, Louisiana, Mississippi) provide for a quadrennial election, and all the other constitutions provide for an election biennially.

A system of registration for voters (already discussed), a system of nomination, including the primary; the election, including the form and method of voting; and the count, are all matters that properly fall under the jurisdiction of the state and may be mentioned in the constitution or more properly left to statutory regulation. The chief requirement found in constitutions (in about thirty) is that voting be by ballot. Others authorize it by law. Congress also makes this requirement for national elections. Since the introduction of the Australian ballot system there is a tendency to say *Secret* ballot (nine states). As the voting machine is not a ballot, states desirous of using this mechanism, yet having a ballot requirement, must add an amendment specifying a voting machine or some other device "provided that secrecy in voting be preserved."[13] A few states (five) require that the ballots be numbered and a few others require that the ballot include the party emblem (for example Louisiana) or on the other hand arrange candidates alphabetically (Virginia, Wyoming). There are very few constitutional provisions in regard to the primary and the count, such matters are regularly left to legislatures.

Nearly all constitutions contain some provision against fraud

[12]Kentucky, Maryland, Mississippi, Virginia.

[13]See for example Utah, New York, Virginia; and recent amendments to constitutions of Pennsylvania, Connecticut, and California.

and bribery, but legislative ingenuity has not yet succeeded in making a really effective "Corrupt Practices" act.[14]

Political parties are voluntary associations and not part of the state's electional machinery. The state under its police powers has the right to regulate them but should not make the blunder of assuming that political parties represent all voters. If a legislature for instance regulates the party primary or the party ballot, it must arrange that independents also be able to express their choice in nomination and on the official ballot. Any departure from this principle must be expressly specified in the constitution or run the risk of being declared unconstitutional.[15]

So far as constitutions are concerned there is very little attempt to regulate party organization, such matters being left to statute. Louisiana in articles 200 and 215 gives the gist of what few provisions may be found in other constitutions.

[14]See Kentucky, Delaware, Maryland for illustrations of constitutional provisions.

[15]For recent cases bearing on this point, see Spier *vs.* Baker, 52 P. 659; Britton *vs.* Board of Election Commissioners, 61 P. 1115, and amendment to constitution of California regarding primaries adopted 1900.

CHAPTER V.

The Executive Department.

One of our favorite political theories is that of the separation of powers. The several powers of government are grouped under three main heads and each kind placed in charge of a distinct set of officials. In practice these divisions can not be entirely separate, and a system of "checks and balances" is used so as to co-ordinate and unify the work of government. Executive powers properly include the war and treaty power, the power of oversight, under which is placed the veto power, and the power of appointment and supervision over the administrative departments.

One of the chief defects in our present state constitutions is that these executive powers have not received proper attention. The theory of separation has been disregarded and the legislature has been allowed to share these powers with the executive, with disastrous results. There is at present a strong centralizing tendency in economic and political life, and one effect from this is increased attention to the proper place of the executive in government. This is plainly indicated by a comparison of the articles entitled "The Executive Department."

The requirements for the office of governor are practically the same in all the states. The governor must be at least thirty years of age (four states require twenty-five or thirty-five years), a citizen of the United States for a period varying from five to twenty years (Maine requires that he be native born), and a resident of the state for a period of from one to ten years. If the election results in a tie, the procedure is the same in almost all the states, viz., the legislature in joint session selects a governor from the leading candidates. The usual procedure is modified somewhat in five states.[1]

A few states specify his salary in the constitution, others do so but authorize the legislature to change it, and the remaining states wisely leave the matter to the discretion of the lawmaking body. In passing, it may be said that the increase in the cost of living with

[1]Maine, Massachusetts, Vermont, Georgia and Mississippi; this last state elects its governor through an electoral college.

other reasons, is resulting in a steady increase in salaries paid to state officials. Twenty states now pay the governor five thousand dollars or more, and only five states pay two thousand dollars or less. Fifteen states place restrictions on a governor's re-election, the usual form being a prohibition against two successive terms; three states forbid him to be a candidate for the United States senate while in office (Alabama, California, Utah), and New Jersey forbids its legislature to elect him to any other office "during the term for which he shall have been elected governor." Nearly all forbid a state officer to hold a position of trust under the federal government and should forbid him to hold more than one office within the state. (See Florida, Art. XVI, 15.)

The term of office is four years in twenty-one states, two years in the same number of states, three years in New Jersey and one year in Massachusetts and Rhode Island. The tendency is toward the longer term, not away from it,

The governor has certain routine duties common to all states; he represents his commonwealth in its dealings with other states, he may summon the legislature in special session or adjourn it in case of disagreement, he "must take care that the laws be faithfully executed," may commission officers and fill vacancies *pro tempore*, and is the commander of the military and naval forces of the state.[2] He regularly has large powers in pardoning, which he exercises on his own authority or partly in connection with the legislature or senate (twenty-nine states) or by the aid of a board (thirteen) or council (three.) He regularly has the power to make formal recommendations to the legislature, and may request information under oath, or opinions in writing, from the several officers of administration. Aside from these usual powers, which require no special mention, attention must be given to (*a*) the veto power and (*b*) his power in administration.

The Veto Power.—In 1788 two states only (Massachusetts, New York) gave the veto power to the governor; in 1906 North Carolina and Rhode Island alone withhold it. The need of an efficient check on legislation simply compelled the change. In the national constitution, a veto is overridden by a two-thirds vote of

[2]Twenty-six, even some of the inland states, mention *navy;* Massachusetts and New Hampshire have similar quite thrilling and sanguinary paragraphs on the war powers of their governors as commanders-in-chief and admirals of the respective forces of their states.

both houses of congress; this fraction is preferred by thirty-one states, but nine[3] specify a majority, and three a three-fifths vote.[4] This vote must be by yea and nay and recorded. Taking warning from experience, thirty states now allow the governor to veto items of appropriation bills[5] and three of these also allow him to veto part or parts of any bill.[6]

The time given to the governor for the consideration of a bill varies from three to ten days, twenty preferring five days, eleven ten days and the others three or six days. If adjournment intervenes between the sending of a bill to the governor and its return approved or vetoed, twenty-two constitutions declare the bill passed and seventeen declare it not passed. Ten states[7] allow the governor a period of from three to thirty days to decide whether or not to approve such bills; eighteen states[8] allow him from five to thirty days to file objections with the secretary of state, if he desires; and nine states[9] require that such bills with objections be referred to the next legislature for its consideration.

The constitutions seem to be in doubt whether to consider the veto as executive or legislative in kind; thirty prefer to place it under the executive department and twelve follow the national constitution in classifying it under legislative. Vermont has it among the amendments, and two states, as already said, allow no veto.

This power of veto lodged in the executive, especially when coupled with the power to veto items and to approve or disapprove after adjournment, has become a most effective restraint on legislative action, and has been vigorously used to enlarge executive powers and to conserve public interests.

Administration.—The power of the executive over administration has during the course of our national history undergone

[3]Alabama, Arkansas, Connecticut, Indiana, Kentucky, New Jersey, Tennessee, Vermont, West Virginia.

[4]Delaware, Maryland, Nebraska.

[5]The thirteen states not yet granting this power are Connecticut, Florida, Indiana, Iowa, Maine, Massachusetts, Michigan, Nevada, New Hampshire, Oregon, Tennessee, Vermont, Wisconsin, all old constitutions.

[6]Washington, Virginia, Ohio.

[7]Alabama, California, Delaware, Iowa, Michigan, Minnesota, Missouri, Montana, New York, Virginia.

[8]Arkansas, Colorado, Florida, Idaho, Illinois, Indiana, Kentucky, Nebraska, Nevada, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Utah, Washington, West Virginia, Wyoming.

[9]Florida, Indiana, Maine, Mississippi. Nevada, Ohio, Oregon, South Carolina, Washington.

some remarkable changes. This power was in the early constitutions deplorably weak, since in those days legislatures controlled administration also. The present constitution of Rhode Island is an excellent illustration of this old-fashioned type. As governmental business multiplied through the growth of population and wealth, legislatures tried to handle these increasing duties, first, through committees, temporary and then permanent, and finally through the organization of departments, boards and commissions. Most of our states are still in this stage of development. Every new line of activity results in the formation of a special board or commission until these can be counted by the score in almost any state, a joy to the spoils politician, but the despair of every taxpayer. Under such conditions the administration of the state becomes unwieldy, wasteful, and thoroughly unbusinesslike. Each department, board, or commission drifts along under the nominal control of the legislature, united only by the bond of a common affection for the state treasury.

This evil has for some time attracted the attention of the leaders in our several states, and the remedies devised by them are already working their way into the newer constitutions. The substance of these changes is that administrative power is taken from the legislature and transferred partly to the electorate but chiefly to the executive, where it properly belongs. The methods by which this has been done will now briefly be indicated.

Attention has already been called to the tendency toward a four-year term and a larger salary for governors. The same point holds true in respect to the heads of the important departments. Their terms are lengthening and their salaries increasing. In the case of the treasurer (fourteen states) and auditor or comptroller (three states) there is the same provision against re-election for successive terms. Heads of departments, instead of being elected by legislatures as formerly, are now almost invariably elected by the people. In a very few states[10] one or several of these heads are still chosen by legislatures, and by contrast in a few states[11] the governor has that privilege, but the movement sets steadily in the direction of popular election. Again, constitutions regularly specify what departments must be organized, and what powers they

[10]For examples see Maine, New Jersey, South Carolina, Tennessee, Virginia.
[11]See Delaware, Maryland, New Jersey, New York, Pennsylvania, Texas.

may exercise. These offices in almost all states include a secretary of state, a treasurer, an auditor or comptroller, an attorney general and a superintendent of public instruction. Another department is common enough, though going under widely varying names. Its duties in general are indicated by the term Internal Affairs (Pennsylvania). Besides these departments many constitutions name and define the powers of numerous boards, commissions, or bureaus, intended chiefly for purposes of general welfare, and for supervision of the larger economic interests of the state.

Conventions by thus placing such matters in the constitution have deprived legislatures of the power of altering them, and to that extent have developed an administration apart from the law-making body.

The next development is to require these several departments and officials to report semi-annually to the governor; to make him ex-officio member of the several commissions (Utah for example); to authorize him to investigate thoroughly any department or office at his discretion,[12] especially those handling the finances of the State,[13] and to place in his hands the power to suspend or remove those officers who seem to be derelict in their duties.[14] A few (nine) add to such powers the duty of presenting to the legislature at the beginning of each session the budget of anticipated receipts and expenditures. There is also a strong tendency to define more generously his power in removal and to increase his power of appointment in the case of officials other than heads of departments. This power he regularly exercises by and with the advice and consent of the senate, though the wisdom of this requirement may be questioned. It is impossible to specify these details by states in so short a space but a comparative study would show great differences in the extent of executive power. Compare, for example, some of the newer constitutions such as those of Alabama, Idaho, Montana, New York, Utah and Wyoming; and an older set, such as those of Colorado, Maryland, Missouri, Texas and West Virginia; and a still older set, such as those of Iowa, Oregon and Wisconsin; and finally the New England set as an awful example of what not to do.

[12]For illustrations of this see Idaho, Montana, Utah, Wyoming.
[13]For curious provisions see Georgia, Kentucky, Maryland, and Mississippi.
[14]See for example Michigan, xii, 8.

The reason for the longer term and larger salary of the modern governor is now obvious. His duties are so onerous that he must be adequately paid and time be given him to show his capacity as head of the administration. By centralizing administrative responsibility on his shoulders his office becomes powerful, commands respect and is eagerly sought after by capable men. It becomes also a prize in party politics and for that reason should be supplemented by an adequate civil service law modeled after one of the rival systems of either Massachusetts or New York.[15] In short, the loosely co-ordinated administrative system of the revolutionary period is at last disappearing, and in its place the states are centralizing administrative powers into the governor's hands, as in the national system.

Future conventions will likely pay much more attention to the proper organization of the administration, which should be arranged in a separate article apart from the executive. A beginning in this direction already has been made in eight constitutions,[16] but imperfectly, as these were prepared before present evils had fully developed.

A check should be put on so rapid a multiplication of semi-independent boards, bureaus, and commissions. Some are useless and others could be consolidated. By centering responsibility in the governor, efficiency and economy become possible, and his hands should be strengthened against party demands by the merit system of appointment and tenure.

Thirty-two of the states have lieutenant governors, and thirty of these make that officer president of the senate. In the other thirteen states[17] and in Massachusetts the senate elects its own presiding officer, and the constitution arranges the order of succession in case of the death or disability of the governor. An elaborate paragraph on succession may be found in the new Alabama constitution. Three of the New England states still retain the old-fashioned executive council (Massachusetts, Maine, New Hampshire), and a modification of it may be found in North Carolina. Though not provided for by constitution, Iowa has an executive council and possibly other states also by custom or statute.

[15]See Article V, sec. 9, New York constitution.

[16]See Article VI, Indiana, Wisconsin, Oregon; Georgia, Article V, sec. II; Colorado, Article XII; New Jersey, Article VII; Michigan, Article VIII, and Tennessee, Article VII.

[17]Arkansas, Florida, Georgia, Maine, Maryland, Mississippi, New Hampshire, New Jersey, Oregon, Tennessee, Utah, West Virginia, Wyoming.

CHAPTER VI.

The Judicial Department.

The judiciary is the department of our government which, up to recent years, has undergone fewest changes and given most satisfaction. The touching confidence of old-time constitution makers in the wisdom and integrity of legislator and judge, may still be seen in the constitutions of the New England states, which dispose of the subject of judicial organization in few words, leaving it almost entirely to the discretion of the lawmakers. Contrast these with recent constitutions and the difference is marked. One of the chief sins of the Louisiana constitution is that it devotes about twelve thousand words to the courts of the state and of the city and parish of New Orleans. It is really a statute under the form of a constitutional article, and yet can be amended only by a slow and tedious process. But, though the chief of sinners in this respect, Louisiana is not alone in this tendency. The rapid multiplication of population and wealth, our democratic fondness for litigation and lawmaking, with social unrest thrown in as a disturber of the peace, all compel movements for the reorganization of the judiciary. The effect of this is seen in the addition to our constitutions of numerous pages devoted to the judicial department; for conventions, filled with distrust of legislatures, realize that a judicial system with organization and functions defined by constitution is beyond the power and control of the lawmaking body.

The American standard of judicial organization is a three-grade system of courts, consisting of a supreme court, an intermediate court usually known as a circuit, district or county court, and courts of the justices of the peace. The jurisdiction of the judges of the highest sets of courts regularly extends to all parts of the state, even though in some cases they are elected by districts.

The supreme court is regularly a court of appeals, usually, if at all, having original jurisdiction only in the issuance of prerogative writs; this power it regularly shares with the courts next lower in grade. A few states add other original jurisdiction.[1] In

[1]For example, California, Illinois, Indiana, Nebraska, North Carolina, Pennsylvania and some of the New England states.

some states the supreme court is called the court of appeals,[2] confusion arises when, as in New York, the supreme court is not a supreme but a district court. In Texas the supreme court has a separate organization for civil and for criminal business. Rapid increase of judicial business in many of our states during the last thirty years has burdened their supreme courts beyond reason. A temporary makeshift in use is to authorize a supreme court commission, so as to enable the court to catch up with its cases. In recent years this has been done by California, Florida, Montana and Nebraska. In New York (amendment 1899) not more than four justices of the supreme (district) court may be designated by the governor to serve temporarily as associate justices of the court of appeals. Another possibility is to organize a system of intermediate courts of appeal.[3] This additional grade, in cases when decisions are conflicting may add to the expense and time of litigation, hence there arises the system of increasing the number of judges and allowing these to sit in two or more divisions, and *en banc* only when necessary to settle disputes or in especially important jurisdiction. Those constitutions that failed to include some such provision for the relief of the supreme court are rapidly placing it in their constitutions by amendment.[4] Wisconsin has had to change the organization of its supreme court three times by amendment to constitution; in 1877, 1889, 1903. Still another possibility is shown in New Hampshire (1901) and Rhode Island (1903) which have organized each a superior court, having part of the jurisdiction formerly confided to the supreme court.

In view of this national tendency, it would be well if all constitutions hereafter would provide an adequate system for appellate jurisdiction, or leave to the legislature some discretion in respect to the organization of the supreme court.

Little needs to be said in regard to the other grades of court. There are wide differences in organization, and much is left to legislatures. There is little uniformity in name and many differences in jurisdiction. Information on such matters therefore, must be sought from the constitutions and statutes themselves or from some text book on the subject.

[2]For example in Kentucky, Maryland, New Jersey, New York.

[3]For example in Illinois, Indiana, Louisiana, Missouri, New York, Pennsylvania, Tennessee, Texas, and California in 1904.

[4]See for example Kansas, 1900; Florida, 1903; Colorado, 1904; Alabama, 1904 .

Tenure and Appointment.—Life tenure, and appointment through legislature or executive, was the method in vogue for the higher judiciary at the beginning of the nineteenth century. Only one state, Georgia, at that time elected judges for its higher courts by popular vote. The tendency is entirely the other way at the present time. Three states[5] still retain a life tenure, but all others fix a definite term. A long tenure is favored by three other states;[6] the other states vary from two years (Vermont) to twelve, over one-half (twenty states) favoring the six-year term; eight and twelve are the periods next favored. A class system is in use in almost two-thirds of the states, the number of classes varying with the period. By this system of retiring a part only of the bench at one time, the opinions of its members are less likely to be affected by political considerations, continuity in decision is maintained, and candidates for election, being fewer in number, receive more attention. The usual practice is to elect these at large, not by districts. The tenure of inferior judges is for a shorter term; if the supreme justices for example, hold for six years, the other two grades of judges hold usually for four and two years. Theorists regularly declaim against the election of a judiciary, yet the practice and experience of our states point the other way. The decisions of the American bench compare most favorably with similar decisions enunciated by appointed judges elsewhere, and the results justify the practice. Judges of the supreme court are still appointed by governor and council in Maine, Massachusetts and New Hampshire; in Delaware, Mississippi, and New Jersey by governor and senate; in Rhode Island, Vermont, South Carolina and Virginia, by the assembly; and in Connecticut by the assembly on nomination of the governor. Georgia in 1898 (assembly) and Louisiana (governor) in 1904, were the last to change to the elective system. The other thirty-four states elect their judges and show no tendency in the other direction. The usual provision for removal is by vote of the assembly (a majority or two-thirds) or through the governor after action by the assembly. Four states by constitution fix the retiring age at seventy years, Connecticut, Maryland, New Hampshire, New York.

The salaries of judges are far less frequently specified in the

[5]Massachusetts, New Hampshire and Rhode Island.

[6]Pennsylvania, twenty-one years; Maryland, fifteen; New York, fourteen years.

constitutions than those of other civil officers. Those that do, as a rule give the legislature power to modify at discretion. The statutes of our states show a strong tendency to enlarge salaries paid to judges, doubtless because of the broader learning and arduous labor demanded under present conditions of life. The rewards of law practice are now so great that capable judges can not be obtained except by adequate compensation.

The Jury.—It is plainly evident that the time-honored jury system is subject to amendment in these modern days. Several states[7] by constitution or by statue either abolish or authorize the legislature or the court to abolish at its discretion the grand jury. If retained, the number of its membership and of those who must concur is often stated.

Many constitutions arrange that a jury may be waived altogether in petty civil suits, or in more important cases by agreement, or in misdemeanors; or that the jury may be less than twelve, or a verdict may be rendered by a vote that is not unanimous. These modifications are too numerous to specify in detail but many such provisions may be found under bill of rights and judicial department.[8] These modifications in the jury system, though not in themselves so important, yet show a tendency worth noting. A state desirous of modifying its jury system should put a provision to that effect in its constitution, and must do so if its constitution contains some such provision as the following: "The right of trial by jury shall be preserved inviolate." It was once rather common in this country to allow a jury to be judge of the law as well as of the facts, the reaction against that older practice is shown by a provision in several constitutions that "judges shall not charge juries with respect to matters of fact but may state the questions of facts in issue and declare the law".[9] Maryland makes the opposite statement, Article XV, 5.

It is now common in most of our states to grant legal and equitable relief in one suit, a reform largely brought about through the influence of Justice Field (David Dudley Field). A provision

[7]See for example Michigan, Colorado, Illinois, Minnesota, Missouri, North Dakota, South Dakota, Wisconsin, Wyoming, Utah, Washington.

[8]Most of the constitutions contain such provisions but, as illustrations, see Idaho, Louisiana, Montana, North Carolina, South Dakota, Virginia.

[9]Delaware; also Arkansas, California, Nevada, South Carolina, Tennessee, Washington.

authorizing such procedure is found in several constitutions.[10] "There shall be but one form of civil action, and law and equity may be administered in the same action." Following up this tendency many constitutions provide for tribunals of conciliation[11] whose decisions are not to be obligatory unless by mutual consent.

Certain minor judicial features of our state constitutions may briefly be mentioned as indicative of the present trend. It is quite usual, especially in new constitutions, to define the boundaries of judicial districts. This is purely a matter of detail that might better be placed in the schedule and left to be amended by ordinary statute. Thirteen states expressly authorize the supreme court to superintend and control inferior courts;[12] six states provide that judges may suggest improvements in the law for legislative action.[13] Four of the older states[14] still allow the governor or assembly to ask the supreme court for opinions on important questions of law, or on "solemn occasions." South Dakota and Florida allow the governor this privilege but all the other states wisely prefer to keep the supreme court out of politics and omit the provision.

Idaho and North Carolina authorize the supreme court to hear claims against the state but its decisions are to be merely recommendatory. The senate as a court of impeachment still holds its place in the judicial system, though it is an exceedingly cumbersome and somewhat antiquated method of trial. In New York the judges of the court of appeals are added to the senate in such trials. Oregon only, of all the states (VII, 19), has no provision for impeachment.

An attempt to define libel is a marked feature in many constitutions. This may be found either under Bill of Rights or Judicial Department. Among the most elaborate of these are the provisions found in the constitutions of Michigan, California, Pennsylvania, Alabama and Arkansas. Many states make a judicial officer ineligible to any other than a judicial office. Some states refuse him permission to be absent from the state for a longer

[10]Among these may be mentioned California, Idaho, Kentucky, Montana, New York and Texas; see also Ohio, Article XIV.

[11]Alabama, Kentucky, Louisiana, Michigan, North Dakota, Wisconsin for example.

[12]Alabama, Arkansas, Colorado, Iowa, Louisiana, Maryland, Michigan, Missouri, Montana, North Dakota, South Dakota, Wisconsin, Wyoming. Oregon gives this power to its circuit courts. See also Texas and Washington for modified powers.

[13]Colorado, Florida, Idaho, Illinois, Nebraska, Washington.

[14]Massachusetts, Maine, New Hampshire, Rhode Island.

period than sixty or ninety days.[15] Five states[16] require the court to furnish for record a syllabus of the points adjudicated in each case. A few constitutions use pressure so as to expedite judges in their work. Some of these provide that judges shall not collect their salaries unless they take oath that all controversies finally submitted have been decided.[17] Three states endeavor to define contempt of court.[18] Six states[19] provide that the publication of decisions shall be free, and two provide that the copyright shall belong to the state (Nebraska, South Dakota).

Alabama authorizes judges to exclude the public from the court room in cases of rape, and Georgia must greatly add to the business of its supreme court by declaring that "The costs in the supreme court shall not exceed ten dollars, unless otherwise provided by law." Florida requires that the legislature "appropriate at least $500 each year for the purchase of such books for the supreme court library as the court may direct."

[15]California, Missouri, Utah, Washington.

[16]North Dakota, Oregon, South Carolina, Utah, West Virginia.

[17]For such and similar provisions see California, Georgia, Idaho, Maryland, Montana, Nevada, South Carolina, Utah, Washington.

[18]South Carolina, Arkansas, Louisiana.

[19]California, Missouri, New York, Utah, Washington, Florida.

CHAPTER VII.

Organization of the Legislative Department and its Procedure.

The most important department in our system of government is that of lawmaking. This power at the beginning of our national existence one hundred and thirty years ago was exerted only through legislatures; at the present time the power of making fundamental law has largely passed to the constitutional convention and to the electorate. This latter body, through the referendum, and in some states through the initiative, also shares to some extent the power of making statutes. The relative importance of legislatures is therefore decreasing, not in a few but in all the states, and that, too, in spite of the fact that legislatures are much more democratic than formerly. Under such conditions conventions really have before them a problem well worth considering, viz., shall an attempt be made to enhance the dignity and importance of the legislature so as to make it worthy of the place it theoretically fills in our political system,[1] or, on the other hand, shall the process of minimizing its importance be continued until it becomes an impotent body of small consequence, dragging along a paltry existence, to be finally abolished as useless by some future convention? A powerful executive with ordinance privileges, a convention meeting periodically, and the use of the initiative and referendum as in Oregon, certainly seem to leave no pressing necessity for a legislature. Under present tendencies it must either pass out of use or be reorganized on a scientific basis.

This and the two following articles will contain certain facts obtained from a comparison of our constitutions that may throw some light on this all-important problem.

LEGISLATIVE ORGANIZATION.

Name.—The lawmaking bodies of our states are generally called legislatures, but that in most cases is not the legal name. In twenty-three states it is known as the general assembly, in

[1]See Vermont constitution, Chap. II, sec. 8, "The house . . . shall consist of persons most noted for wisdom and virtue."

seventeen as the legislature, in three as the legislative assembly,[2] and in two as the general court.[3] All the states name the small or upper house the senate, and thirty-seven call the larger body the house of representatives. Four call it the assembly,[4] three, the house of delegates,[5] and one, the general assembly (New Jersey).

Membership.—It is hard to realize that in our state legislatures alone we have nearly seven thousand lawmakers (1,610 in senate and 5,247 in house, or an average for each state of thirty-six senators and one hundred and sixteen representatives). If "in multitude of counsellors there is safety" surely we are safe when our legislatures are in session! If undue size is a political sin, the worst sinners are the New England states, which have in their six lower houses one thousand three hundred and fifty-three members. This is due to their unfortunate emphasis on the importance of the town, once the pride but now the bane of New England politics. The six states,[6] largest in population (over three millions) average forty-one in the senate and one hundred and forty-eight in the house; New York, the largest state, has fifty-one and one hundred and fifty respectively. The twenty-one states having a population between one and three millions average forty in the senate and one hundred and fifteen in the house. If the five small New England states (all but Massachusetts) be excluded from the last set having a population under one million, the remaining thirteen states average twenty-eight in the senate and sixty-three in the House. Of all the legislatures only three senates have a membership of over fifty (Illinois and New York fifty-one, Minnesota sixty-three); three are under twenty (Utah eighteen, Nevada and Delaware seventeen). Five houses have a membership of fifty or under (Delaware thirty-five, Nevada thirty-seven, Utah forty-five, Idaho forty-six and Wyoming fifty); and five houses have a membership of over two hundred (Pennsylvania two hundred and seven, Massachusetts two hundred and forty, Vermont two hundred and forty-six, Connecticut two hundred and fifty-five, and New Hampshire, with its membership of three hundred and ninety-one, out-

[2]North Dakota, Montana, Oregon.
[3]Massachusetts, New Hampshire.
[4]California, Nevada, New York, Wisconsin.
[5]Maryland, Virginia, West Virginia.
[6]New York, Pennsylvania, Illinois, Ohio, Missouri, Texas.

numbers the national house). An average taken of the fifteen constitutions made since 1888 shows the houses to be respectively thirty-four and eighty-nine, which is just the average of the thirty-four states having a population below three millions, barring out as before the five small New England states.

These figures show that the American tendency is to have a senate from one-half to one-third that of the house in membership,[7] that the legislatures of our largest states should not exceed a joint membership of about two hundred; our average states not over one hundred and fifty, and the legislatures of our small states with a population of one million or less should have a membership of from sixty to one hundred. Experience shows that it is on the whole best to fix the numbers definitely in the constitution. If the legislature is given the power, the number of representatives becomes too large. It is far easier in practice to increase than to decrease the number.

Representation.[8]—Three of the New England states have both houses organized on a basis of population similar in practice to that of the other states. The three other states of this section each have one of their houses more or less democratic, but the other house is based on a town system, regardless of population. These states, however, with the exception of Massachusetts, are omitted from the comparisons of this paragraph since they should be studied by themselves.

The prevailing basis of representation in the senate of the forty remaining states is population. Twenty-seven order a reapportionment after every census, based on population, and four based on voting population.[9] The other nine states[10] also base the apportionment on population, but make some modification or exception that may render the senate not quite so democratic in basis as those of the other thirty-one states.

In thirty-six states population, and in four states voting population, is the basis of representation in the house. As this is the larger house twenty-one states provide that each county, or each county having a given fraction of the ratio (one-half to two-thirds),

[7]This ratio is fixed in some states, for example Iowa, Nevada, Utah, Washington, Wyoming.

[8]See also Chapter XI.

[9]Arkansas, Indiana, Massachusetts, Tennessee.

[10]Delaware, Georgia, Maryland, Montana, New York, New Jersey, Pennsylvania, South Carolina, Texas.

shall have at least one member. This produces a degree of inequality in representation that will be considered in a later chapter. Ten of the older states provide in their constitutions a complex ratio for determining representation, but such schemes are not favored in most, or at all in the newer, constitutions. The single-member district is the prevailing form in the states, though there are some exceptions, since the county may be used as a general district for the house and its representatives be elected at large.[11]

Terms.—Twenty-nine states fix on a four-year term for senators and all but six[12] of these provide for arrangement into two classes, one-half retiring every two years. New Jersey elects for three years on a three-class system. Thirteen states[13] elect their senators for two years only, and two for one year (Massachusetts and Rhode Island). For members of the house the term is two years in thirty-eight states, four years in Alabama, Louisiana, Mississippi, and one year in Massachusetts, New York, New Jersey and Rhode Island.

Sessions.—In the "good old times" constitutions used to declare that "The legislature ought frequently to assemble."[14] The states seem not so sure of that now for there are three states that elect their legislatures quadrennially, Louisiana, Alabama, Mississippi, the last two of which have but one regular session during that term. Mississippi, however, provides for a short special session midway in the term, to act on appropriation and revenue bills. All other states hold biennial sessions except Georgia, Massachusetts, New Jersey, New York, Rhode Island, South Carolina which provide for annual meetings. Twenty-three states place no constitutional limitation on the length of the session, but nine[15] of them provide that pay stop entirely or be reduced in amount, at the end of a specified time. The practical effect of this proviso is to reduce the session to the period of full pay. The average session for the fourteen legislatures unlimited in time (averaging the two last sessions), is one hundred fourteen days.

[11]For example, in Illinois, Mississippi, Missouri, North Dakota, Texas.

[12]Alabama, Delaware, Kansas, Louisiana, Mississippi, Virginia.

[13]Connecticut, Georgia, Idaho, Maine, Michigan, Nebraska, New Hampshire, New York, North Carolina, Ohio, South Dakota, Tennessee, Vermont.

[14]See constitutions of Maryland, Massachusetts, South Carolina.

[15]California, Idaho, Kansas, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas.

It would be larger, but the pay in three of these states is so small[16] that there is no inducement to protract the session. If all states except these fourteen be considered as having a constitutional time limit we find eighteen setting a sixty-day limit, four a ninety-day, and four a forty-day limit, and five at odd intervals ranging from forty-five to seventy-five days. Four[17] states set a limit but authorize the legislature to extend the same if necessary. Special sessions are regularly authorized and seventeen states set limits to the duration of these, the favored periods being twenty, thirty and forty days.

Salaries.—About one-half of the constitutions specify the per diem of their legislators and invariably get it too low. Once fixed in the constitution it is hard to raise the amount by amendment.[18] Voters seem to delight in voting down all forms of increase in pay. The per diem amount paid is often barely sufficient for expenses at a cheap hotel and must be eked out from other sources of income. Many constitutions fortunately allow legislatures discretion in regard to the amount of pay and in such states a more generous provision is made. The best paid legislators are those of New York and Pennsylvania ($1,500) and Ohio ($1,200.) The lowest are Oregon (three dollars per day for forty days), Maine $150 for the session), and Kansas, Michigan and Vermont at three dollars per day. Mileage is regularly specified in addition, and in a few constitutions (five) an attempt is made to regulate the amount of incidental expenses.[19]

THE PROCEDURE IN BILLS.

Under the legislative department will regularly be found a number of provisions in regulation of the organization and general powers of the legislature. Among these is one authorizing each house to determine the rules of its own procedure. In one respect at least, this power has been taken from the houses. Proper deliberation and an opportunity for free discussion are so important in legislation that the procedure in respect to the passing of bills is now in many of our states regulated by constitution, from the introduction of the bill to its promulgation after passage. This is

[16]Maine, New Hampshire, Vermont.
[17]Arkansas, Georgia, Virginia, West Virginia.
[18]For example Michigan, 1901, Kansas, 1902, Texas, 1906, rejected such amendments.
[19]For example Missouri and Delaware.

one of the most important checks on legislative power yet devised. The contrast between the old and the new in this respect can easily be seen by comparing the ancient constitutions of New England with almost any of those made since 1888, especially the constitutions of Alabama, Kentucky, Louisiana, Mississippi. In three constitutions a separate heading has been set aside for such and kindred regulations of procedure or proceedings.[20] A complete list of such restrictions would practically indicate all the evils that have developed in legislative experience, for, of course, each restriction is aimed at some observed defect or evil in the legislative system.

It is generally provided that no law shall be passed except by bill, and that no new bill shall be introduced within the last few days of the session—three to twenty days—except by consent of a large fraction of the house. Some confine this restriction to appropriation bills. No bill is to embrace more than one subject, which must be plainly expressed in its title, any part not so expressed being null and void. General appropriation bills, and bills for the revision and codification of laws are excepted from this provision. The time honored provision that revenue bills shall originate in the house only, and be subject to amendment in the senate, is required by twenty-one states. The others either expressly authorize either house to introduce any bill or infer it by silence. It is regularly provided that every appropriation outside of general appropriations shall be by special bill. Some (Mississippi for example) add that no appropriation bill shall be passed which does not fix definitely the maximum sum thereby authorized to be drawn from the treasury. In others, New York for example, bills appropriating money for local or private purposes must receive a two-thirds vote of all members elected to both houses, and, again, not less than three-fifths of all members elected shall form a quorum for the consideration of a revenue or appropriation bill. No act can be revised or amended by mere reference to its title, but what is amended must be set forth in full; nor is any amendment to a bill allowed which would change the scope and object of the bill.

In view of the great importance of legislative committees it is strange that so few constitutions attempt to regulate them. The task is apparently too great for conventions. The only provisions

[20]Mississippi, Missouri, Texas.

are the following: Some nine states require that all bills must be referred to a committee. Kentucky adds that whenever a committee fails or refuses to report within a reasonable time, any member may call up the bill. Three states[21] make provision for a joint committee on local and special legislation, which under its instructions ought to be most useful in handling that distressing part of legislation. Five states provide that voting on reports of committees of conference shall be recorded by a yea and nay vote.

Many of the constitutions authorize a demand for a yea or nay vote on any question; the number who may make the demand varies from one member to one-fifth of the membership. It is generally provided that bills must be read three times, but differences arise as to whether these shall be read in full and on three separate days. The last reading is regularly in full and vote on its passage is recorded by yeas and nays. New York forbids amendment at the last reading. Mississippi requires that all votes on final passage shall be subject to one day's reconsideration. It is now a common requirement that bills be printed with all amendments and placed in the hands of members before the final vote.[22] Louisiana authorizes also the printing of minutes each day for the use of members.

A quorum is regularly a majority of all members, and bills pass by a majority of those present, but some require[23] that every bill must receive a majority vote of all members elected, and New Hampshire requires that when less than two-thirds of all members are present, a two-thirds vote is necessary. Kentucky makes the fraction of those present two-fifths.

All bills of course when finally passed must be signed by the presiding officers, but this has become a quite formal occasion; other business is suspended, the bill is read at length and compared, then the chairman signs in open session and sends on the bill to the other house where the same procedure takes place.[24] Eleven constitutions allow any member to make formal protest against a bill and to have the protest entered on the records.[25] Minnesota allows no bill to be passed on the last day of the session. Kentucky, Maine, Mississippi, New York forbid riders on appropriation bills.

[21]Georgia, Mississippi, Virginia.
[22]As illustrations, Missouri, Pennsylvania, New York.
[23]Louisiana, and Delaware for example.
[24]See Alabama, Kentucky, and Missouri, as illustrations.
[25]See Missouri for example.

About one-half of the constitutions define when the laws shall go into effect. The period set varies from forty to ninety days, the last being the favorite. A few prefer to fix a definite date for all bills, as the first day of June or July, this is usually equivalent to a sixty or ninety day limit.[26] As a rule provision is made that a bill may go into effect immediately in case of emergency. It is easy to see that the strict enforcement of the severest of these regulations would prevent much hasty legislation.

[26]See Illinois, Iowa, Maryland, North Dakota.

CHAPTER VIII.

Limitations on the Legislature.

A state has original, not delegated, powers. It can legally do whatsoever it pleases within its own borders, subject only to such regulations and prohibitions as may be found in the national constitution. The legislature, as the representative of the people, may exercise all these vast powers at its discretion. The executive and the judicial departments have no such authority. The power to make law includes the power to regulate, alter, or even abolish these departments. In other words in democracies the legislature is legally omnipotent. The legislatures of our states during the revolutionary period really wielded this immense power, but every generation since that time has witnessed the gradual diminution of it. This process has already in part been outlined; the adoption of the theory of the separation of powers brought about the transfer of certain powers, very slight at first, through the written constitution to the executive and judicial departments; then the right to make fundamental law was transferred to the convention and to the electorate through the referendum; now the power over administration is rapidly passing from the legislature to the executive, and judicial organization and powers are quite fully set by the convention, which leaves to the legislature merely the petty details of judicial regulation.

Legislatures would however still remain the most powerful of the three departments, if their right to make statutes were left untouched, but even this privilege is denied them in part. Attention has already been called to the fact that conventions, wisely or unwisely, place statutes in recent constitutions. A twelve-thousand-word judiciary article in the Louisiana constitution, and a seven-thousand-word article on corporations in the Virginia constitution, show this tendency clearly. In fact every detailed command, prohibition, or regulation in a constitution, is in effect a usurpation of the statute-making power of legislatures, so that, in a sense, the length of a constitution roughly indicates the amount of limitation placed on legislatures.

In addition to this loss of power, the electorate also, working

through the convention, has taken from the legislature large powers in the making of statutes. The climax of this tendency is seen in the Oregon amendment of 1902, already referred to, which reads, "The legislative authority of the state shall be vested in a legislative assembly, . . . but the people reserve to themselves power to propose laws and amendments to the constitution, and to enact or reject the same at the polls, independent of the legislative assembly, and also reserve power at their own option to approve or reject at the polls any act of the legislative assembly. The first power reserved by the people is the initiative. . . .The second power is the referendum." The amendment later provides that the style of all bills shall be: "Be it enacted by the people of the State of Oregon" (formerly "by the Legislative Assembly)." This amendment applies to the constitution as well as to statutes. Two other states have authorized the initiative and the referendum, but apply these principles to statutory legislation only, South Dakota, 1898, Utah, 1900.[1]

In ways equally effective, though not so spectacular, the people through the convention have placed in the constitutions requirements that certain kinds of general laws shall be referred to the electorate for final approval or rejection.[2] Space will not allow a full discussion of this subject, but in brief it may be said that in many states referenda must be ordered in the case of general statutes that involve an increase of state debt above a fixed maximum, an increase in the tax rate when fixed by constitution; or the location of a state capital or important state institution, such as a university or a penitentiary. In statutory local legislation referendum requirements are entirely too numerous to specify. Practically all the states use the referendum more or less in matters affecting counties, towns and cities, or on such questions as the licensing of saloons or an increase in local debt for special expenditures.

Special Legislation.—Such restrictions have largely reduced the importance of legislatures in the making of general statutes. These bodies find some consolation, however, if only they are

[1]Initiative and referendum amendments, after passing the legislatures of Massachusetts, Nevada, and Missouri, were rejected by the next legislatures, in the first two states, 1904, 1905, and by the people in Missouri, 1904.

[2]By judicial interpretation referenda on general statutes must be authorized by the constitution.

allowed to pass at pleasure special, local or private legislation. Through such measures friends are won, interests placated, and constituencies made secure. An attack upon this privilege seems to add insult to injury; forbid the privilege and the chief delights of legislative existence pass away. But what are the facts in the case?

Alabama in 1901, in a session of one hundred and thirteen days, under its old constitution, which had few restrictions on spécial legislation, passed 1,132 laws,[3] only ninety of which were general. In 1904, in two sessions of eighty days, under the new constitution, which contains many restrictions, 803 laws were passed, 179 of which were general. Virginia in a ninety-one day session, 1901–2, under its old constitution, passed 694 laws, eighty-seven of which were general. In 1902–4, under its new constitution, during several sessions lasting two hundred and sixty-seven days, it passed 608 laws, 317 of which were general. In its regular session of sixty-two days, in 1904, it passed 262 laws, 135 of which were general. These illustrations show the effect of restrictions.

Most state legislatures meet in the odd years. In 1901 those that met passed 13,854 laws, 5,318 of which were general. In 1903 14,098 laws were passed, 5,198 of which were general. In 1905, 13,172 laws were passed and 5,608 were general. If the legislation of all the states during the last legislative period (1904–1905) be considered, 18,937 laws were passed, 8,362 of which were general. During that same period the New England states, whose legislatures are almost unrestricted, passed 3,877 laws, of which 1,162 were general. Six states[4] whose legislatures are fully restricted, passed 1,558 laws, 1,127 of which were general. In other words New England special legislation was seventy per cent of the whole and that of the other six states but twenty-eight per cent of the whole.

To sum up, it may be assumed that, roughly speaking, unrestrained legislation will be seven-tenths special, fully restrained legislation three-tenths special, or if the average of all legislation for the last five years be taken, it may be safely asserted that three-fifths of our state legislation is special, private or local.[5] Under

[3]In this paragraph the term laws includes resolutions also, but the proportion of these is very small.

[4]California, Idaho, Illinois, North Dakota, South Dakota, Utah.

[5]The basis for these totals is obtained from the excellent Summaries of Legislation issued by the New York State Library.

such conditions general legislation can not secure the attention it deserves. Really capable men, wearied by numerous demands on their time and patience in the consideration of relatively unimportant matters, drop out of our legislatures and yield place to small men, big with the sense of their own importance, who delight in special legislation as a means to enable them to hold a position for which they are entirely unfit. Add to this the waste of money through needlessly protracted sessions, and undue multiplication of law, and it is easy to see that conventions have a problem on their hands in devising a remedy for one of the greatest of our political evils.

It now becomes possible to ask what remedies have been devised to check this evil. The most obvious remedy is to forbid special legislation. It is interesting to study the old-fashioned constitutions of New England, almost void of restrictions, then to take up the next older set, and see restrictions creeping in one by one, the more numerous as you go westward, where democracy is more vigorous, and at last to see in the recent constitutions long lists of restrictions, finally as many as thirty-five, each forbidding some particular kind of local, special, or private legislation. To make assurance doubly sure the new Alabama constitution carefully defines terms:

"A general law within the meaning of this article is a law which applies to the whole state; a local law is a law which applies to any political subdivision or subdivisions of the state less than the whole; a special or private law within the meaning of this article is one which applies to an individual, association or corporation."

The trouble with this remedy is that it may go too far. Our governors in their messages already complain of an increase of statutes, general in their nature but really special in their application. Special legislation must be had at times, and there should be ways of getting it without subterfuge. Let there be restrictions by all means, but allow some discretion on occasions.

The device of a special committee on local legislation, already referred to as authorized in Georgia, Mississippi and Virginia, is excellent in design but in practice seems not to work well, if one may judge from the amount of special legislation still issued by the legislatures of those states. Such committees should be impartial

and judicial in the exercise of their work, like similar committees of the British House of Commons, where the handling of special legislation is a fine art.

Another device found in several constitutions[6] and in the statutes of some others (Vermont for example), is to require that no local or special bill shall be passed, unless notice of the intention to apply for such legislation shall have been published in the locality at least thirty (or sixty) days before the bill is introduced. This is a most excellent plan if properly performed. If, however, the notice is published once, in fine type, in an obscure corner of an obscure paper, little will be accomplished by the requirement.

A much more promising remedy, imitated from the excellent English system of supervision over local government, and now partly in use in many states, under legislative authority, is to authorize by general statute the several departments of administration to apply the principles of such statute to special cases as they arise. For example, the auditor may settle claims for tax rebates, the land commissioner many points in titles, the secretary of state issue charters, and the courts, like the federal court of claims, pass on disputed accounts. We have now in many of our states boards of equalization. Such a board might have its powers enlarged so as to pass on very many requests from localities for special legislation. The English Local Government Board, which performs such a service for counties, towns, and cities, is, perhaps, the most successful device in British national administration. This movement is hard to follow from constitutions, because the statutory power of legislatures is ordinarily sufficient for action, but there is a strong trend in this direction throughout the country, and, if supplemented by thorough executive oversight, and civil service rules, should prove the ultimate remedy for the evils of special legislation. That at least is the conclusion of the best governed of the European states[7] which do not suffer, as the United States does, from such a perversion of lawmaking.

[6]Arkansas, Florida, Georgia, Louisiana, Missouri, North Carolina, Pennsylvania, Texas.
[7]Great Britain, Germany, France.

CHAPTER IX.

Constitutional Regulation of Important Interests.

It is said that Americans are prone to assert dogmatically their opinions on all subjects of which they are ignorant, and to be diffident in matters with which they are fully conversant. The point of this saying can be appreciated by one who seeks to ascertain how conventions regulate important interests. Most of these interests are in process of rapid development, for, through the multiplication of machinery and wider knowledge, the conditions of life change with wonderful suddenness, as compared with the slow changes of earlier centuries. Yet conventions dogmatically fix in the fundamental law provisions that must be largely superseded in a very few years. Virginia's article on corporations for instance, placed in a constitution that can be amended only with great difficulty, and Louisiana's judiciary department, no matter how excellent they may be, yet will surely need frequent amendment. For such reasons the work of conventions in respect to the topic now under discussion is the least satisfactory of all their labors. An old debater once advised a beginner, "When you don't know what else to say, discuss general principles." Our conventions should follow this advice, and refrain from rushing in "where angels fear to tread."

There are few specialists, if any, who would with alacrity undertake to write out for a state constitution a detailed system of taxation, of finance, or education; of regulation for corporations, common carriers, or banks; or to define a policy toward labor, or state ownership of monopolies, or control over mining interests. All such matters must of course receive most careful attention from conventions, but the question is rather whether such attention should not confine itself chiefly to the formulation of general principles, to a tentative outline for a system of regulation, with some discretionary power left in the legislature, and then to pay much more attention to methods whereby a higher grade of officials and legislators may be secured. If, for illustration, the membership of our legislatures were cut in half, and the pay of the remaining half doubled; if our numerous departments, commissions, and

boards were consolidated and unified, and salaries of heads trebled; real economy would result, and efficiency be greatly increased. Lastly, conventions should recognize that much of their work is at the best transitory, and hence that the method of amendment should be comparatively simple. An unchangeable constitution in these days is an insult to the spirit of a progressive democracy.

After this preface, the question may now be asked, what points in our constitutions seem on the whole most general in respect to important interests.

Local Bodies Politic.—It seems plain from the constitutions. that the town system of New England is dead. It is not imitated *per se* outside of that section, and within that section is in a state of *noxious desuetude*. The real unit in the United States is the county, in thinly settled states cut up into administrative districts. which gradually become townships as population multiplies. These townships remain integral parts of the county, are supervised, and yet have a large share of local autonomy. The urban center has two distinct organizations, the village and the large city. There is first the village, borough, town, or city, organized under general law in almost all the states, and having a small compact population under a simple form of government. Lastly comes the incorporated city of large size, either organized by special charter, or in classes by general law, or authorized by constitution to form their own charters, subject to the constitution and general statutes of the states.[1]

Corporations.—In general the points worthy of notice in constitutions respecting corporations of all sorts are as follows: First, a distinction is made between corporations organized for profit, and those for other purposes; these last may be exempted from taxation, if religious, educational, or eleemosynary in character. Second, a distinction is made between domestic and foreign[2] corporations, and this last class regulated so as to secure investors and the payment of suitable fees or taxes. In respect to corporations organized for profit, constitutions regulate their relations to the state and seek to secure the interests of their stockholders.

[1]For home charter cities, see the constitutions (amended) of California, Minnesota, Missouri, Oregon and Washington. Illinois, in 1904, passed an amendment authorizing the legislature to pass special laws for Chicago, but subject to referendum. The franchise rights of cities are protected in about one-half the constitutions (see South Carolina as example).

[2]Those not chartered by the state itself.

They provide that corporations be chartered by general or special law, that their charters be subject to amendment or revocation, that those already organized must file acceptance of constitutional provisions if they desire to have the benefit of future legislation, and that they be subject to general regulation. This regulation may be loose and allow large freedom, or may be strict or paternal in character. It may include regulations of capital stock and its issuance, periodic reports to a state commission having powers of supervision and regulation, and publicity of conditions. In addition there may be prohibitions of pools, monopolies, and trusts, regulation of the exercise of the power of eminent domain, aiming to secure the rights of those whose property is taken; and prohibitions against the lending of public credit by a state or locality to any private enterprise. Some states[3] forbid corporations to hold real estate out of use after a fixed period of years (five to ten). Illustrations of the above provisions may be found in most of the western and newer southern constitutions, notably Kentucky, Louisiana, Alabama and Virginia. The article on corporations in this last constitution is a really excellent production, well worthy of study. The articles in the constitutions of Alabama and South Dakota on banks are typical of the usual provisions on that subject. Texas, which heretofore has forbidden the incorporation of banks, in 1904 authorized such incorporation under certain restrictions.

Taxation and Finance.—There are wide differences in respect to these matters in the constitutions, but a tendency in certain directions is clear. Details must be sought in statutory legislation. Taxes must be uniform, levied and collected under general laws, and for public purposes only. A maximum tax rate is fixed, varying with the valuation of the state, and a maximum debt for state and locality, beyond which amount the referendum must be used. The maximum may be fixed by a per cent of the assessed valuation instead of a specific amount. Some authorize an income tax, others an inheritance tax (over half the states now use this form of tax) and still others franchise taxes and a tax on the capital stock of corporations; a radical amendment of this sort was added to Minnesota's constitution in 1896. These special forms of taxation illustrate a strong tendency to seek for the state sources of income apart from those used by localities. State and municipal bonds

[3]California, Louisiana, Michigan, Missouri, for example.

are regularly exempted from taxation, and provision may be made allowing to new industries exemption for a term of years (Mississippi for example), or there may be a contrary provision forbidding such exemption. Georgia lengthily defines the state's sovereign right in taxation.

The system of assessment is justly receiving more attention than formerly, but is a troublesome question and much is properly left to the discretion of legislatures. The chief provisions are, state and county boards of equalization, and in a few states (Louisiana for example) a special board to assess franchise corporations.

In finance careful provisions in respect to bonded indebtedness and sinking funds are characteristic features. The safe investment of funds is a vexed question. Two states at least[4] allow investment of school funds in land mortgages. Prohibitions are common against the receiving by treasurers of profits from the loan of funds in their hands. Our states are mostly in excellent financial condition and this is largely due, in the case of the newer states at least, to the wise pay-as-you-go policy enjoined by constitutions. Attention has already been called to the governor's control over finance. Virginia in its new constitution tries an interesting experiment in providing for a standing auditing committee made up of five members of the general assembly. This committee is to have powers of inspection over all officers who handle state funds, may sit after adjournment, and reports to the governor.

Provisions in regard to state ownership of franchises or natural monopolies are not common. New York provides that its famous canal system shall forever remain the property of the state, and in another section makes the same provision for its wild forest lands. Utah has a better worded article on forestry. Nebraska reserves ownership in its salt springs. The western mining and irrigating states now have many provisions in regard to the use of the waters of the state, Wyoming and North Dakota making the waters "the property of the state." Many of the states bordering on the sea and on navigable rivers have articles on tide lands and riparian rights, and declare their policy in regard to the use of the waters.[5] North Dakota provides that "the coal lands, including lignite, of the state shall never be sold, but may be leased." States seem not yet

[4] Idaho and South Dakota. Missouri allows county school funds to be so invested. Washington by amendment 1894 forbids loans of school funds to private persons or corporations.

[5] See for example, Washington, South Carolina, Louisiana, Mississippi.

to have a clear policy in regard to public lands, whether to sell them in severalty or to retain ownership and lease the lands. Wisconsin and South Carolina both declare that the people "possess the ultimate property in and to all lands within the jurisdiction of the state."

Education.—The articles on education found in the constitutions vary from the simple paragraph of early constitutions to lengthy provisions sometimes several pages in length. This, however, is largely due to the necessity of arranging for the disposition of the school lands so generously voted to the states by congress. These lands are generally placed under the charge of a land commissioner or board, and provisions are made for the holding or disposing of lands and the investment of school funds. Special attention is paid to the safety and proper investment of these funds, and several states[6] provide that losses through neglect or dishonesty must be made up from other funds. About two-thirds of the constitutions now forbid school funds to be used in aid of sectarian or denominational schools. Many have done this under instructions in enabling acts, and others of their own accord.

Provision is generally made for a state superintendent, a board of education, and similar officials in the counties. Attention also is given to the organization of the higher institutions of learning. Localities are permitted to add to the school funds by special tax, and cities to maintain and control their schools apart from the county system. There are many differences in respect to the length of the term, to compulsory features, to matters of text books, and to the organization of separate schools for white and colored.

Labor.—The growing interest in labor questions begins to find expression in the constitutions. Bureaus for the study and preparation of labor or industrial statistics are common. So are courts or boards of arbitration. The eight-hour day for all public work is fixed in four constitutions,[7] and two require that citizens of the United States only shall be employed on public works. The right of recovering damages for injury is safeguarded,[8] the "fellow-servant" doctrine modified, and contracts declared null and void

[6]For example Iowa, Nebraska, North Dakota, South Dakota.

[7]California, Idaho, Montana, Utah. Colorado, in 1902, by amendment, made eight hours a day's labor in mines.

[8]For example, Arkansas, Colorado, Kentucky, Mississippi, Montana, Pennsylvania, Virginia, Wyoming.

which exempt employers from liability. Convict labor is regulated so as not to compete with other forms (New York for instance), and boys under fourteen (or twelve) are forbidden to work in mines. Montana wisely made the age sixteen by amendment, 1904. Wyoming forbids the employment of girls or women in mines at all. Prohibitions against blacklists and Pinkerton detectives are among the curiosities of this section.

Miscellaneous.—In view of the unfortunate political conditions existing in many states most of the constitutions contain more or less elaborate provisions against bribery, and corruption.[9] This involves much taking of oaths; officials, even legislators, must take oath that they have not attained their election by improper means; governors, not to exert improper influence on legislators.[10] Free passes are now forbidden by constitution in at least thirteen states;[11] log rolling,[12] lobbying, betting at elections, intimidations of electors by employers, and sharing in contracts while in office, are all prohibited in one or more of the constitutions. Dueling, though well nigh obsolete, is forbidden in about two-thirds of the states, and in most is a disqualification for office. Four states require the duel oath; Texas combines it with the bribery oath. Mississippi requires each legislator to swear to read the constitution, or to have it read to him, presumably if illiterate!

About half of the constitutions now secure married women in their right to separate estates. This provision is often found under homestead exemption, for which in some form or other provisions are also common. The newer constitutions pay much incidental attention to matters of social morals, such as the prohibition of lotteries,[13] regulation of intemperance, provisions for local option, and authorization of penal reforms. South Carolina prohibits prize fighting, gambling or betting (for officials) and has a unique provision against lynching. There is a rather general provision for institutions of charity, and for state boards of charity and correction, either with powers of visitation and recommendation, or of control.

[9]See Alabama, Delaware, Kentucky and New York as illustrations.

[10]Nine states require bribery oaths.

[11]Alabama, Arkansas, California, Florida, Idaho, Kentucky, Louisiana, Maine, Mississippi, New York, South Dakota, Washington and Wisconsin.

[12]The exchange of votes by legislators.

[13]This is found in about thirty-five constitutions.

Up to 1898 four states[14] had codified their written and unwritten law.[15] Codifications of statutory law are, of course, much more common. Five states[16] by constitution authorize their preparation. Michigan orders a compilation only. There are provisions for the codification of procedure in four states[17] and the constitutions of Mississippi and Kentucky each provide for a commission of expert lawyers to prepare such general laws as are necessary to put the new constitution into effect.

[14]Georgia, California, North Dakota, South Dakota.
[15]27 Am. Law Review, 552.
[16]Indiana, Louisiana, Missouri, South Carolina, Texas.
[17]Indiana, Louisiana, Ohio, South Carolina.

CHAPTER X.

Religious Provisions of the State Constitutions.

The principle of religious liberty is one of the most striking features of American democracy. Foreign students of our institutions regularly manifest deep surprise at the practical workings of the theory of the separation of church and state. Chapter CVI for instance of Bryce's American Commonwealth illustrates this attitude of mind. Our national constitution took advanced ground when it forbade congress to establish religion or to prohibit its free exercise, and recognized no religious test as a qualification for office or public trust.[1] Some of our states even yet have not advanced so far. There are still survivals in the constitutions of that earlier, more intolerant spirit which now seems so strangely out of place. The religious provisions of our state constitutions may roughly be divided into two classes: (1) those aiming to establish religious freedom; and (2) those involving some recognition of religion. A statement of each of these in turn may present some interesting features.

1. All forty-five constitutions in plain terms provide for freedom of worship but vary considerably in methods of expression. Michigan, for example, states that "The legislature shall pass no law to prevent any person from worshiping Almighty God according to the dictates of his own conscience;" North Dakota, by contrast, provides that "The free exercise and enjoyment of religious profession and worship, without discrimination or preference, shall be forever guaranteed in this state." Utah, after a similar provision, adds, emphatically, "There shall be no union of church and state, nor shall any church dominate the state or interfere with its functions." Other constitutions again, like those of Massachusetts, Rhode Island, and New Hampshire, have lengthy provisions, the last named state employing two hundred and seventy-three words for Article VI of its Bill of Rights. The additional matter as a rule amplifies the principle in detail by specifying that no preference shall be given by law to religious societies; that no person shall be compelled against his will to contribute toward their support,

[1]Amendment I and last clause Article VI.

nor to attend services; that all persons shall be free to profess and maintain by argument his religious beliefs; and that every religious denomination shall be protected in the peaceable enjoyment of its own mode of worship. Rhode Island has an eighty word *whereas*, as preface to its provision, and states therein its historic argument for religious liberty. Nineteen constitutions however, are careful to say in varying phraseology that liberty of conscience shall not be construed so as to excuse acts of licentiousness, nor justify practices inconsistent with the peace and safety of the state. Many provide that liberty of conscience shall not be construed to dispense with oaths or affirmations, and Idaho, Montana, and Utah expressly except polygamous marriage from a guaranty of religious freedom.

The constitutions generally provide that no limitations shall be placed on an individual's rights because of his religious beliefs. Seven states for example prohibit the denial on such grounds of civil rights; eight other states put it "No civil or political rights shall be denied;" and twenty-one states declare that no religious test shall be required as a qualification for any office or public trust. Four states[2] specify that no religious test shall ever be required as a qualification for voting. In judicial matters nine states forbid any religious test as a qualification for jurors, and twenty states safeguard witnesses in the same way. Oregon and Washington add to these provisions, "nor be questioned in any court of justice touching his religious belief, to affect the weight of his testimony." On the other hand two constitutions, insert a provision inherited from the political theories of Cromwell's time.[3] Maryland bluntly provides that "No minister or preacher of the gospel, or of any religious creed or denomination, shall be eligible as senator or delegate." Tennessee is far more courteous in its similar provision. "Whereas, ministers of the gospel are, by their profession, dedicated to God and the care of souls, and ought not to be diverted from the great duties of their functions; therefore, no minister of the gospel or priest of any denomination whatever, shall be eligible to a seat in either house of the legislature."

Freedom of conscience is also safeguarded by exempting from military duty those who are conscientiously opposed to war. Twenty-three states have provisions of this sort, varying from the

[2]Kansas, Minnesota, Utah, West Virginia.
[3]For example, Harrington's Oceana.

quaint phraseology of Maine, "Persons of the denominations of Quakers and Shakers, . . . and ministers of the gospel may be exempted from military duty," to the businesslike statement of Washington. "No person or persons having conscientious scruples against bearing arms shall be compelled to do military duty in time of peace: Provided, such person or persons shall pay an equivalent for such exemption."

Some of our states by experience have found out that religious sects can be indirectly supported from public funds by grants to religious philanthropic institutions, especially hospitals and orphan asylums. Twenty-three states recognize the danger of this policy and forbid in more or less vigorous terms such grants. A typical provision of this sort (Michigan) reads: "No money shall be appropriated or drawn from the treasury for the benefit of any religious sect or society, theological or religious seminary, nor shall property belonging to the state be appropriated for any such purpose." Montana has a still stronger prohibition; "No appropriation shall be made for charitable, industrial, educational or benevolent purposes to any person, corporation or community not under the absolute control of the state, nor to any denominational or sectarian institution or association." Lengthy provisions of a similar nature, but with certain provisos, may be found in California, Article IV, sections 22 and 30; Louisiana, Article 53, and Virginia, section 67. A kindred provision forbidding aid to sectarian educational institutions may be found in twenty-nine constitutions. Article 253 of the Louisiana constitution contains this provision in simple form, "No funds raised for the support of the public schools of the state shall be appropriated to or used for the support of any private or sectarian schools." A safer and far more emphatic form may be seen in Utah's constitution, Article X, section 13: "Neither the legislature nor any county, city, town, school district or other public corporation, shall make any appropriation to aid in the support of any school, seminary, academy, college, university, or other institution, controlled in whole, or in part by any church, sect, or denomination whatever." This provision is in eight constitutions enlarged by an injunction against the teaching of sectarian doctrines: Wyoming says, "nor shall any sectarian tenets or doctrines be taught or favored in any public school or institution that may be established under this constitu-

tion;" Wisconsin expressly mentions its university, and California also desires its university to be kept "entirely independent of all sectarian influence." Nebraska and South Dakota unite in a provision which in the constitution of the last named state reads as follows: "Nor shall the state, or any county or municipality within the state, accept any grant, conveyance, gift or bequest of lands, money or other property to be used for sectarian purposes." The five mining states,[4] curiously enough substantially agree in providing that, "No religious test or qualification shall ever be required of any person as a condition of admission into any public educational institution of this state, either as teacher or student; and no teacher or student of any such institution shall ever be required to attend, or participate in, any religious service whatever (Colorado, IX, 8). Kentucky has it in the form, "nor shall any man be compelled to send his child to any school to which he may be conscientiously opposed." Mississippi, however, in providing for religious liberty expressly says that, "The rights hereby secured shall not be construed to exclude the Holy Bible from use in any public school of this state." Perhaps, however, the most curious of this series of prohibitions is found in the constitutions of Michigan and Oregon, which provide that no money shall be appropriated for the payment of any religious services in either house of the legislature. The odd part of the Michigan provision is that in the same paragraph forbidding religious services for the legislature it authorizes the employment of a chaplain for the state prison; apparently its inmates were considered more susceptible to religious influences.

Unless there be a prohibition in the constitution a legislature under its general lawmaking powers may exempt property used for religious purposes from taxation. For this reason most constitutions are silent in respect to such exemptions. Eleven states, however, expressly authorize their legislatures to exempt such property. A few states have some curious provisions in regard to this matter. Virginia and West Virginia agree in forbidding a charter of incorporation to any church or religious denomination, but authorize the assemblies to secure the title to church property so as to hold it for designated purposes. Missouri allows religious corporations to be established under general law but only for the

[4]Colorado, Idaho, Montana, Wyoming, Utah.

purpose of holding title to not over five acres of land (one acre within a city) and buildings thereon, if used for religious purposes. Maryland in a lengthy article in its bill of rights (Article 38) forbids every gift, sale or devise for religious purposes without the prior or subsequent sanction of the legislature, but excepts from this provision land not exceeding five acres and its buildings. Mississippi goes farthest of all in prohibiting every devise, legacy, gift or bequest to a religious body or corporation, and authorizes the heir-at-law to take such property "as though no testamentary disposition had been made." As a final illustration of the regulation of property used for religious purposes, we find Kansas anticipating modern French policy by providing that, "The title to all property of religious corporations shall vest in trustees, whose election shall be by the members of such corporations."

II. The provisions in constitutions that involve some recognition of religion are simple and comparatively few in number. The most important of these is a formal acknowledgment of the goodness of God. Thirty-nine constitutions place in their preambles this recognition; three, having no preamble, omit it (West Virginia, New Hamphire, Vermont); and three make no reference to God in their preambles (Michigan, Tennessee, Oregon). In twenty-nine preambles the term Almighty God is used; three use the term God; and three, Supreme Ruler of the Universe. The following terms each occur once only: Creator, Supreme Being, Sovereign Ruler of the Universe, Sovereign Ruler of Nations, and Great Legislator of the Universe. The most common form is a simple acknowledgment of gratitude for the enjoyment of rights and liberty (twenty constitutions); twelve others add to that an invocation or a statement of reliance on Him for blessings and guidance; four use the invocation or statement of reliance only, two use the phrase, "with profound reverence for the Supreme Ruler of the Universe," and Delaware ascribes to Divine Goodness the fact that "all men have by nature the rights of worshiping and serving their Creator according to the dictates of their consciences." The following quotations illustrate the usual phraseology: "Grateful to Almighty God for our freedom;" "Grateful to Almighty God, and invoking his blessing on our work;" "Grateful to Almighty God and humbly invoking His guidance;" "Humbly invoking the blessings of Almighty God."

Three constitutions,[5] in their bills of rights quote from the Declaration of Independence, asserting that men are free and equal and endowed by their *Creator* with certain inalienable rights. Similiar provisions in other constitutions omit the word Creator.

All of the forty-five constitutions provide that the officers of the state take oath or affirmation on entering office and as a rule give the oath or affirmation verbatim. In eighteen constitutions the oath ends with the sentence "So help me God" (Vermont and Connecticut use the second person). Seven of these substitute, in case of an affirmation, the phrase "under the pains and penalties of perjury." Four constitutions also provide for an oath or affirmation at registration, or if challenged when voting.

Among the most curious survivals of religious intolerance are those found in eight constitutions regarding qualifications for office. Both Arkansas and Mississippi expressly state that no religious test shall be required as a qualification for office; yet in later articles provide that no person who denies the existence of God shall hold any office; and Arkansas adds, "nor be competent to testify as a witness in any court." Maryland, North Carolina, South Carolina, and Texas likewise refuse office under similar conditions, but Maryland also adds that a witness or juror must believe "in the existence of God, and that under His dispensation such person will be held morally accountable for his acts, and be rewarded or punished therefor in this world or the world to come." Pennsylvania and Tennessee, however, go still farther by requiring as a qualification for any office a belief in the being of God and in a future state of rewards and punishments. This provision of Tennessee's constitution must be a lineal descendant of a provision of the constitution submitted by the Rev. Samuel Houston in 1785 for the State of Frankland (Tennessee). It read as follows:

No person shall be eligible or capable to serve in any office of this state who denies any of the following propositions, viz.: (1) That there is one living and true God, the Creator and Governor of the Universe. (2) That there is a future state of rewards and punishments. (3) That the scriptures of the Old and New Testaments are given by divine inspiration. (4) That there are three divine persons in the Godhead, coequal and coessential.

This constitution fortunately, was not accepted by the convention.

[5]Alabama, Indiana, North Carolina.

Miscellaneous Provisions.—The constitution of Virginia is the only one to mention the Young Men's Christian Association (section 183), Mississippi authorizes religious worship for convicts (section 225), and, along with South Carolina, allows ministers of the gospel to register and vote after a shorter time requirement than other classes of persons. There are no longer any religious restrictions on the exercise of suffrage. North Carolina recognizes that, "provision for the poor, the unfortunate, and orphan, is one of the first duties of a civilized and Christian state," and Tennessee provides that "No person shall in time of peace be required to perform any service to the public on any day set apart by his religion as a day of rest." Delaware asserts that "it is the duty of all men frequently to assemble together for the public worship of Almighty God; and piety and morality, on which the prosperity of communities depends, are thereby promoted." Vermont goes still farther in saying that "every sect or denomination of Christians ought to observe the Sabbath or Lord's Day, and keep up some sort of religious worship, which to them shall seem most agreeable to the revealed will of God." It also orders its legislature to encourage societies organized for the advancement of religion. Massachusetts in its eleventh amendment asserts that "the public worship of God and instructions in piety, religion, and morality, promote the happiness and prosperity of a people and the security of a republican government." In Chapter V also it declares that "our wise and pious ancestors . . . laid the foundation of Harvard College, in which university many persons of great eminence have, by the blessing of God, been . . . qualified for public employments, both in church and state;" and adds that "the encouragement of arts and sciences, and all good literature, tends to the honor of God and the advantage of the Christian religion." Notwithstanding the recommendations of its last two constitutional conventions, New Hampshire still retains its Puritanic article on Evangelical Protestantism. The first sentence reads as follows: "As morality and piety, rightly grounded on evangelical principles, will give the best and greatest security to government, and will lay in the hearts of men the strongest obligations to due subjection, and as the knowledge of these is most likely to be propagated through a society by the institution of the public worship of the Deity and of public instruction in morality and religion, therefore,

to promote these important purposes, the people of this state have a right to empower, and do hereby fully empower, the legislature to authorize, from time to time, the several towns, parishes, bodies corporate, or religious societies within this state to make adequate provision, at their own expense, for the support and maintenance of public Protestant teachers of piety, religion, and morality."

As the foregoing paragraphs include all the religious provisions of American constitutions now in force, our constitutional attitude toward religion is plainly manifest. Freedom of conscience is fully guarantied, and the few intolerant limitations on rights are in fact probably obsolete. Whatever power religion has in the United States over the lives of men is due to its inherent strength, not to a support derived from the state.

CHAPTER XI.

Popular Representation in State Legislatures.

The famous Northwest Ordinance of 1787, in article second of its compact, declares that, "The inhabitants of the said territory shall always be entitled to the benefits of . . . a proportionate representation of the people in the legislature." This principle of popular representation may now be looked on as a settled American policy and departures from it as exceptions to the general rule. In our state constitutions this principle is embodied in the command that representation in both legislative houses shall be based on population, and a readjustment made decennially, after the taking of either national or state census. Legislatures, to be sure, in carrying out this injunction, may be to some extent unfair in their apportionments, but that is a matter of discretion and expediency, the remedy for which should, in case of gross inequalities, lie in the courts.

While, however, the principle of equal representation is embodied in our state constitutional system, there are exceptions, and some of these are serious departures from the principle. In a few states at least a system of representative democracy does not exist, but rather a form of oligarchy. These modifications are generally survivals from an earlier but antiquated system, retained for partisan purposes; or they may be intended as a sort of guaranty for the minority as against a powerful majority. In form they are constitutional provisions aiming to secure representation to districts, county or town, irrespective of population; or, on the other hand, to place limitations on city representation as against the representation of the rural population. These provisions are fourfold: there are (1) provisions that each town or county have one or more members; (2) that no city or county have more than a fixed number or fraction; (3) a complex ratio is specified which in effect may discriminate against some in favor of other localities;[1] and (4) the districts are themselves fixed by constitution and limitations placed on legislative power to alter these.

[1]For ratio provisions see constitutions of Iowa, Maine, Maryland, Missouri, North Carolina, New Hampshire, New York, Ohio, Pennsylvania and West Virginia.

This chapter aims to present in detail the systems of representation in our several state legislatures, from the standpoint of equal popular representation. As a common basis for this study the federal census of 1900 will be used,[2] the county taken as the unit of representation, and an apportionment be considered as equal when the population of a district ranges anywhere from a half ratio to a ratio and a half. In a few constitutions a different fraction of a ratio may be fixed (two-thirds for instance); or the population taken into account may be the voting population, or the census population less aliens; but these local differences will be disregarded for the sake of uniformity. In New England the town is so obviously the unit that the comparison will be made from both units, town and county.

I. In sixteen of the states the constitutions provide for apportionment in both houses on the basis of population, a reapportionment after each census, and place no restrictions on this basis. These states therefore are broadly democratic in this respect. The list,[3] it will be noted, includes states from all sections of the United States.

II. In eighteen states, while the census population is made the basis, there are certain limitations on the representation in one, or it may be in both houses, that modify somewhat the principle. These, though on the whole unimportant, should yet be explained in detail:

Alabama. The constitution provides that each county shall have at least one member in the house. There are sixty-six counties in the state but each of these has a population at least over one-half of the ratio. There are therefore no limitations in fact.

Arkansas has the same provision, but though there are seventy-five counties, each has at least one-half the ratio.

Florida provides that each county have at least one in the house, and no county more than three. Of its forty-five counties four have less than one-half the ratio and hence are over-represented. The four largest counties limited by constitution to three

[2]But in New York the state census of 1905.

[3]California, Colorado, Illinois, Indiana, Kentucky, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, North Dakota, Oregon, South Dakota, Tennessee, Washington and Wisconsin.

each, are entitled by population to eighteen members and hence are under-represented.

Idaho requires that at least one member be assigned in the house to each county, but of its twenty-one counties none has less than one-half the ratio.

Iowa requires that each county have at least one in the house, and provides a ratio which discriminates against the thickly settled counties. Of its ninety-nine counties fifty-eight are below the population ratio, three of these are below the one-half ratio, and of its larger counties thirteen, to which are assigned twenty-two members, should have by population thirty-three members. This state illustrates the fact that if the constitution fixes the number of members, over-representation on one side involves under-representation on the other.

Louisiana in its constitution of 1898 assigned membership to both houses by districts designated, but provided for a reapportionment in 1902 on the basis of the federal census, but with the stipulation that each parish (county) and each ward of New Orleans should have at least one member. The assembly reapportioned the state July 8, 1902. Under the condition set there are twelve parishes below the ratio but above one-half, and three parishes whose populations fall below one-half the ratio. As these have a member a piece, four other parishes in consequence have to lose one each from their proper quota. The city of New Orleans however, has its full proportion of twenty-four members.

Mississippi also defines by constitution its districts for both houses and provides for reapportionment after each federal census, but with the proviso that each county shall have at least one member in the house. In the last legislative apportionment one county only falls below the half ratio, though ten districts are assigned one each in excess of their *pro rata*, and ten districts correspondingly lose one each. This, however, is within legislative discretion and is not due to constitutional requirement.

Montana provides that each county shall have one member only in the Senate. Of its twenty-four counties in 1900 (there are twenty-six now) six were below one-half of the ratio and four counties, which by population were entitled to twelve members, had but four. As Montana in area is the third largest state in the Union, it is easy to see through multiplication of new counties

the possible development of a "rotten borough" system within a generation or two, unless this condition should be stricken from the constitution.

New York[4] in article III, section 4, of its constitution places many restrictions about the apportionment of its senators, and in effect modifies somewhat the principle of popular representation in this body. The difference, however, is slight. District two, which is assigned one, is by population entitled to two. Kings county, which has eight, should have nine, and New York county is entitled to fifteen but has twelve. Provision is made that no county shall have more than one-third of all the senators, and no two adjoining counties more than one-half, but these maxima do not as yet apply to New York and Kings counties.

Section 5 provides a ratio and other regulations for the apportionment of assemblymen. Among these provisions is found the familiar requirement that every county (except Hamilton) shall have at least one member in the assembly. As the house ratio by population is 53,782 this requirement makes havoc with popular representation. Seven districts fall below the half ratio and twenty-five are between one-half and the full ratio. In addition to these single-member districts, two of the larger districts have a representative each too many. The over-representation of these forty-three districts necessitates as usual the under-representation of the largest districts. Kings county, which by population should have twenty-five, has twenty-three; and New York county should add nine to its allotment of thirty-five members.

North Carolina modifies equal representation in the house by defining in constitution the ratio, and by the requirement that each county must have at least one representative. Of the ninety-seven counties forty fall below the population ratio and nine of these below the half ratio. This gain for the counties of smaller population is made up by corresponding losses to the counties of larger population. Fourteen counties should have an extra member each, above the number assigned by the apportionment of 1901.

Ohio also has the familiar requirement that each county shall have at least one member in the house (amendment 1903), and also fixes a ratio in the constitution which complicates the apportionment. There is, however, no maximum fixed by constitution for

[4]Apportionment of May 14, 1906, based on state census of 1905.

the membership of the house, and in consequence, while there is over-representation for the counties of small population, there is no under-representation for the larger counties. By the apportionment of 1905 there are one hundred twenty-one members, and the five counties that contain a population each over 100,000 have their proportionate share, namely, thirty-two members. Of the remaining eighty-three counties sixty-one are below the ratio, and ten of these below the half ratio. By population these eighty-three counties are entitled to just eighty-three members, but in fact have eighty-nine, as the six largest of them are assigned two each.

Pennsylvania by constitution provides that its fifty senators be assigned in proportion to population, but with the proviso that no city or county shall have more than one-sixth. This limits Philadelphia to eight members, though by population entitled to ten.

For the house a ratio is fixed by constitution and provision made that each county have at least one member. The constitution sets no maximum to the membership and this by last apportionment was fixed at two hundred and seven. If the population ratio were used, the thirteen large counties including the city of Philadelphia, would have one hundred twenty members instead of one hundred sixteen, four counties losing one each. Of the remaining fifty-four counties sixteen are below the ratio, and five of these below the half ratio. These five by population should have two members only instead of five.

South Carolina requires that each county have but one member in the senate. Of the forty counties twenty-five fall below the ratio, and one below the half ratio. The fifteen counties containing each a population over the ratio should have twenty-one members, and hence lose six to the smaller counties. By constitution each county also must have at least one in the house, but all the counties have populations above the house ratio.

Texas has a small senate of thirty-one members, and provides by constitution that no single county may have more than one member. In fact, however, no county has a population in excess of the ratio and there is therefore no real limitation.

Utah has a requirement that each county have at least one in the house. Of its twenty-seven county-districts fifteen are below the ratio and seven of these below the half ratio. The more

populous districts must therefore lose their proper proportion. Five districts lose one each, and one (Salt Lake) has ten, though entitled by population to thirteen.

Virginia has no constitutional restriction on representation but in its new constitution (1902) accepts the statutory apportionment of April 2, 1902, permits a reapportionment in 1906, and orders one in 1912 and every tenth year thereafter. An examination of the apportionment of 1902 shows it to be substantially in accord with population. The senate of forty is rightly apportioned; in the house of one hundred members five large districts are short one each, to make up for a slight over-apportionment to districts below a full ratio. No district however falls below one-half ratio.

West Virginia fixes in its constitution the method of computing the house apportionment and grants each county one delegate. The last apportionment is on the basis of population; for of the fifty counties none fall below the half ratio, though twelve are between the half and the full ratio.

Wyoming requires by constitution that each county shall have at least one in each house. In the apportionment of 1901 this results in the gain to the counties of small population of one in the senate (twenty-three members), and three in the house (fifty members), and the consequent loss of these to the more thickly settled counties.

III. In six of the states the restrictions placed on popular representation are especially severe. These will now be considered in turn.

Delaware.—The apportionment to the three counties of Delaware is fixed by constitution and no provision made for alteration. In the senate, Newcastle, Sussex, and Kent counties are assigned seven, five, five members, but are by population entitled to ten, four, and three members respectively. In the house they are assigned fifteen, ten, and ten, but should have twenty-one, eight, and six respectively. In Newcastle county the City of Wilmington is assigned two and five members in the houses, but should have seven and fourteen members by population. This injustice in apportionment will grow worse rather than better, owing to the rigidity of the constitutional provisions.

Georgia fixes in constitution its forty-four senatorial districts, but allows a readjustment after each federal census. In the appor-

tionment of 1904 there are four districts which by population should have nine members instead of four. This is necessitated by the fact that twenty-seven districts fall below the ratio and two of these even below the half ratio.

As for the house of one hundred seventy-five members[5] the constitution divides the one hundred thirty-seven counties[6] into three classes, and orders an assignment of three members each to the six largest counties; two each to the twenty-six counties next in size; and one each to the one hundred thirteen remaining. Had the apportionment of 1904 been in proportion to population, the six largest counties would have had twenty-five members instead of eighteen; the twenty-six counties have their proper assignment; but of the counties in the third class three should have had two each, fourteen fall below even the one-half ratio, and forty-three others range between the half and the full ratio.

Kansas provides that each county shall have at least one in the house, provided it has at least two hundred fifty voters. As its population ratio for the house is 11,764, the smaller districts have too great a representation. In fact there are twenty-eight districts having less than one-half the ratio; these properly should have six members instead of twenty-eight. Hence by necessity the larger districts have too few representatives. The nineteen large districts, to which twenty-eight members are assigned, are really entitled to fifty-one. This well illustrates the evil of inserting an apparently simple condition without proper consideration of consequences.

Maryland in its constitution, as amended, provides that each county shall have in the senate one member, and Baltimore city four, making a total of twenty-seven members, since there are twenty-three counties and the city district. This is far from being in accord with population, as nineteen of the twenty-three counties are below ratio, and ten of these even below the half ratio. In consequence the more populous districts suffer; Baltimore county should have two, and the city is entitled to twelve,

The same objection lies against the apportionment of the house of one hundred and one members. A ratio is carefully defined in the constitution which discriminates in favor of the smaller districts and fixes a maximum for the city of Baltimore. The effect

[5]Since raised to 183 by amendment.
[6]Now 145.

of this is that twenty-two counties which should have fifty members have seventy-one, the county of Baltimore has six but should have eight, and the city of Baltimore has twenty-four but should have been assigned by population forty-three members.

Missouri by constitution provides that its senate be apportioned among districts equal in population and reapportionment made after each federal census.

In the case of the house however each county must have at least one, and a ratio is defined which discriminates in favor of the counties of small population. Of the one hundred fifteen counties seventy-six fall below a ratio based on population, and of these twelve are below the half ratio. The gain in representation to these must be made up of course by a corresponding loss to the counties of larger population. Six of these, to which by the apportionment of 1901 sixteen members were assigned, should have had by population twenty-five, and the city of St. Louis, to which sixteen were assigned, should have had twenty-six members.

New Jersey by constitution makes up its senate by one delegate from each of twenty-one counties. This of course produces great inequality. Fifteen of the counties are below the ratio and eight of these below the half ratio. This necessitates under-representation in the other counties. Essex and Hudson counties should have by population four members each in the senate and Passaic county two.

The constitution also provides that each county have at least one in the house, but as one county only (Cape May) falls below the one-half ratio, the requirement involves no real limitation on popular representation.

IV. The fourth set of constitutions consists of those of the New England states, omitting that of Massachusetts, which by constitution provides for a reapportionment after each state census, on the basis of voting population, and without qualifications or restrictions. As these five states emphasize on the whole the town as the basis of representation rather than the county, their system of representation will be presented from both standpoints, first, from the county basis for the sake of comparison, and then from the town system of representation.

Connecticut by constitution divides the membership of thirty-five in the senate among the counties in proportion to population,

with the proviso that each county have at least one. The assignment in 1906 is sufficiently accurate. Each of the eight counties has a population sufficient to entitle it to at least one; Litchfield county has three but properly should have two; its gain is the loss of Hartford county, which has seven and is entitled to eight.

The house is composed of two hundred fifty-five members and assignment is made on the town basis. If, however, the representation by counties be considered, five[7] counties, to which one hundred thirty-nine members are assigned, should properly have but seventy-three, and three [8]counties, assigned one hundred sixteen members, should have by population one hundred eighty-two.

Maine by constitution provides that its senate of thirty-one members be apportioned among the counties in proportion to census population. The apportionment in 1906 is in strict accord with this provision.

The constitution also provides for a division of the one hundred fifty-one members of the house among the towns on the basis of census population, but adds a discriminating ratio. This will be explained more fully later; but so far as the house apportionment by counties is concerned, it is exactly based on population.

New Hampshire.—The constitution of this state is unique in providing that the senate of twenty-four members be apportioned one each to twenty-four districts, equal in respect to the proportion of direct taxes paid by the said districts. If the districts as set in 1905 be considered as the counties, and their population ascertained, the result shows that eleven fall below the ratio, though none below one-half the ratio. By population the twelve smaller districts should have nine members instead of twelve, and the twelve larger districts should have fifteen.

The house ratio is fixed by constitution and is on a town basis. Disregarding this for the present, and considering the ten counties of the state from the standpoint of census population, it may be seen that four of these should lose fourteen members and these should be added to three of the remaining counties. The greatest difference is found in the over-representation of Grafton county by eight members, and the under-representation of Hillsboro county by nine members.

Rhode Island by constitution apportions its thirty-eight senators

[7]New London, Windham, Litchfield, Middlesex, Tolland.
[8]Hartford, New Haven, Fairfield.

one to each town or city. By county[9] population this means that the four counties of smaller population have thirteen senators in excess of their proportion, and that Providence county, the only other county, loses that same number from its proportion.

Constitutional provisions in regard to the house require that each town shall have at least one, and no city more than one-sixth of the whole number (72). From the standpoint of county population the four smaller counties should lose twelve members, and Providence county should gain them.

Vermont requires that its senate of thirty members be apportioned among the counties in proportion to census population, but that each county must have at least one. The county of Grand Isle has less than one-half the ratio, and the member assigned to this county is lost by Franklin county, which has two members instead of three.

Representation in the house of two hundred forty-six members is by towns and will be presented later. If the population of the fourteen counties however be considered, it may be seen that nine of these have twenty-eight members assigned in excess of their population, and this number taken from four of the large counties.

THE NEW ENGLAND STATES.

Of these six states *Massachusetts* only apportions the membership of both houses on the basis of population. The representation in the lower house is assigned to the counties, and then reapportioned among the towns in proportion to their respective voting population. *Maine* follows the same procedure but specifies a ratio which gives the rural towns an advantage over urban centers. Seven counties only contain such urban centers, and these, eleven in number, are assigned thirty members, though by population entitled to thirty-nine. These nine members are gained by the rural towns in the same counties. Portland, the largest city in the state, is naturally the heaviest loser, having seven members though entitled to eleven.

New Hampshire apportions the membership of the lower house directly to the towns, on the basis of population, but by a set ratio which discriminates somewhat in favor of the county towns. The one-member districts, each composed of one or more towns, number one hundred sixty-eight but by population should have but one

[9]The county in Rhode Island is merely a judical district and has no adminstrative unity.

hundred forty-six members. This gain of twenty-two is lost by the forty-one towns or cities having more than one member each. Unitedly they have two hundred twenty-three but should have two hundred forty-five. Manchester, the largest city, shows the ratio of loss. It has forty-nine members but by population is entitled to fifty-four.

The other three New England states are by no means so equitable in their representation. In theory they seek to make one house popular in basis, and the other representative of the towns irrespective of population.

Vermont, for example, assigns the membership of the senate to the counties on the basis of population, but makes up its lower house of two hundred forty-six members by one delegate from each town or city in the state. Seventy-five of these towns have a population each lower than one-half the ratio, and, if properly represented, would have but twenty-three members. There are one hundred thirty-seven towns having each a population between one-half and one and a half ratios. These have twenty-three members in excess of their population. There are thirty-four towns and cities having each a population over one and a half ratios, to which should be assigned on a population basis one hundred nine members. The four largest cities combined should by population have thirty-three members instead of four. Contrast with these the four smallest towns, which have a combined population of two hundred sixty persons; these are presumably fully represented by their four delegates in the house!

Connecticut likewise assigns its membership in the senate on the basis of population, and divides the two hundred fifty-five members of the house among the towns or cities, assigning one or two members to each. There are eighty-one single-member districts, and eighty-seven having two members each. This difference in representation is historic, and not based on population. Of these one hundred sixty-eight districts, seventy-seven are towns having each a population less than one-half the ratio. They have one hundred members but should have by population twenty. Twenty-three of the seventy-seven towns are two-member districts, and in place of forty-six members should have by population seven members. There are fifty-seven towns each having a population between a half ratio and a ratio and a half. These have eighty-

seven members, though by population entitled to forty-seven. Thirty of these districts have two members each; their representation by population should be twenty-five. The thirty-four largest towns or cities are all double-member districts and hence have a combined representation of sixty-eight members. By population they are entitled to one hundred eighty-eight members. The injustice of this may easily be seen by noting the extremes. The four smallest towns have a combined population of 1,567, less than one half ratio, yet have five members. The four largest cities have a combined population of 309,982 and should have eighty-seven members, instead of the eight assigned by constitution.

Rhode Island uses its house as the apparently popular body, and makes up its senate by one member from each town or city. The constitution however requires that each town must have at least one member in the house of seventy-two members, and that no city shall have more than one-sixth of the total membership. There are thirty-eight towns and cities in the state, and seventeen of these have each a population less than one-half the house ratio. Instead of seventeen members these towns properly should have four. Twelve towns have each a population between a half ratio and a ratio and a half. Fourteen members are assigned to these (1906), instead of eleven, their proper representation by population. There are four large towns and five cities to which properly fifty-seven members should be allotted, but, owing to the limitations already mentioned, forty-one members only are assigned. This loss really all falls on the city of Providence, which by constitution is limited to twelve members though its population entitles it to thirty.

If the census of 1905 were used, the three classes of towns and cities above specified would be as follows:—Nineteen towns having nineteen members, should have five; eleven towns having fourteen members should have eleven; and three towns and five cities have thirty-nine members but should have fifty-six. Providence as before should have thirty members instead of twelve.

The *Senate* is made up of a member from each of the thirty-eight towns and cities. Twenty-five of these fall below the half ratio and should have by population five members only. Seven towns have populations between the half ratio and a ratio and a half, and should have six instead of seven members. The six

remaining districts of large population should have twenty-seven senators in place of the six allotted by constitution. If the census of 1905 were used the classification would be exactly the same.

Using the census of 1905, the five cities and two towns having each a population over 15,000, unitedly have a population of 361,040, or seventy-five per cent of the whole. They should have fifty-four of the seventy-two house members and twenty-nine of the thirty-eight senators. In fact they have thirty-seven members in the house, a bare majority, and seven in the senate, or eighteen per cent of the whole. By contrast the seven smallest towns have a combined population of 7,224, or one and one-half per cent of the whole, and yet are represented by seven members in each house. The city of Providence which by constitution is restricted to one member in the senate and twelve in the house, should by population have sixteen in the senate and thirty in the house.

By taking into account the towns of smallest population, the majority in each house is theoretically controlled by eight per cent of the population in the senate and thirty per cent in the house. If both houses met in joint session for the purpose of electing a federal senator, twenty-eight small towns, containing less than sixteen per cent of the population of the state, could cast a majority vote for their candidate.

Such a system of misrepresentation as this, and those of Connecticut and Vermont, cannot be justified by any theory of democracy, and are entirely at variance with the great American principle of popular sovereignty. These three, and the six states of class III, are, however, glaring exceptions to the general rule. The other thirty-six states are practically democratic in their representation, and the new State of Oklahoma will unquestionably adopt the same policy.

CHAPTER XII.

Constitutions of the New England States.

It becomes obvious that in a comparative study of state constitutions, the set in force in New England should be studied separately, because of the numerous peculiarities found in these ancient constitutions. The latest of these has served two generations, and the oldest was written in the midst of the Revolution.[1] Though amended from time to time, they have been amended conservatively and still retain many features long since outgrown by the other states; with all their amendments they rank as the shortest of our state constitutions, averaging about eight thousand words, or one-half the length of other state constitutions.

Four of these place amendments after the main text and thereby compel a most perplexing tangle of cross-references and obsolete provisions. New Hampshire incorporates its amendments into the constitution, and Maine did so in 1875, but adds later amendments as supplements. Four different methods are used to designate the numbering of articles and sections. Three of the constitutions include a short preamble, New Hampshire and Vermont omit it entirely, but Massachusetts has one long enough (two hundred and sixty-three words) to atone for their shortcomings. Five of the states preface their constitutions with a Declaration of Rights, varying from twenty-one to thirty sections each, but New Hampshire calls it a Bill of Rights, and lengthens it to thirty-eight sections. The religious features of these provisions present marked peculiarities but they have already been presented in Chapter X. All of the states emphasize vigorously the town as the basis of administration and government, and pay relatively small attention to the county or the city. The county in Rhode

[1]Massachusetts, 1780, revised through convention in 1820, and eighteen sets of amendments added since that time up to 1894, thirty-six articles in all. New Hampshire, 1784, revised in 1792, and amended 1851, 1876, 1889, 1903. Vermont, 1793, and twenty-six articles of amendment added through board of censors and convention, 1828, 1836, 1850, 1870, and two additional articles added 1883 through legislative action and referendum. Connecticut, 1818, and thirty-three amendments added up to 1906. Maine, 1819, up to 1875 twenty-one amendments were added and in that year were incorporated into the main text. Nine amendments have been added since that date. Rhode Island, 1842, and nine sets of amendments, twelve in all, dating from 1854 to 1903.

Island is a mere judicial district, but it plays an increasingly important part in the other five states. This system of administrative districts is in marked contrast to that of the other states in the Union, where the county and city receive special attention, and where the town exists, if at all, in the form of a township.

The six constitutions formally separate the three departments of government but the separation is not made in fact. In each state the legislature is given the mass of power and largely controls administration. In Maine the governor must be a native-born citizen of the United States. Four of the states elect lieutenant-governors. In Vermont and Connecticut he presides over the senate; in Rhode Island only in the absence of the governor, who by constitution has that privilege; in Massachusetts he presides over the council in the absence of the governor. The senate elects its own presiding officer in Massachusetts, Maine and New Hampshire. Three states use the old-fashioned executive council, reducing thereby the governor's powers proportionately. New Hampshire has a council of five, and Massachusetts of eight, elected from districts; Maine has a council of seven chosen by joint ballot of the legislature. The council as a rule shares with the governor his power in nomination, appointment, and pardon; in New Hampshire and Massachusetts it shares also his control over expenditure through approval or disapproval of disbursements from the treasury. Connecticut, Rhode Island and Vermont provide for the popular election of three of their heads of administration; Massachusetts elects four, Maine and New Hampshire vest the appointing power in the assembly. In Massachusetts the treasurer may not hold office for a longer period than five years; in Maine, six years. The term of executive and administrative officers is two years except in Rhode Island and Massachusetts, where elections are annual. In New Hampshire, a majority, not a plurality, vote is required in the election of governor, councillors, and senators. This ancient requirement has disappeared from the other New England constitutions. The chief power vested in the governor is that of veto, aside from slight supervisory powers, and the usual powers in nomination, appointment, pardon, and war;[2] Rhode Island alone refuses the veto power to its governor. Four

[2]The quaint and bombastic phraseology of the New Hampshire and Massachusetts war paragraphs is especially noteworthy.

of the states allow their governors five days for consideration of bills, but Connecticut makes it three. The veto may be overridden by a majority of each house in Connecticut and Vermont, but a two-thirds vote is needed in the other three states. If the bill is in the governor's hands when the legislature adjourns, the bill is thereby defeated in four of the states, but is considered as passed in Maine unless returned during the first three days of the next session. No one of the five constitutions allows him to veto items of appropriation bills, though thirty of the other states give their governors this power.

The legislature[3] is elected and meets biennially except in Rhode Island and Massachusetts which have annual elections and sessions. All the sessions begin in January, except in Vermont, where the first Wednesday in October is set. Vermont and Maine hold their state elections in September but the others in November. There are no constitutional limitations on the length of the session in any of the states, but Rhode Island provides that there shall be payment for sixty days service only, at the rate of five dollars per day. Connecticut and New Hampshire fix on a definite compensation for the term, and the other three states fix the amount by statute.[4] The apportionment of the membership of the several legislatures has already been explained in Chapter XI. The substance of this is that Massachusetts fairly apportions representation in both houses on the basis of population; Maine and New Hampshire practically do so, but make some discrimination against urban centers in favor of rural communities. Vermont and Connecticut fairly apportion the senate on the basis of population, but in the house grossly discriminate in favor of rural towns; and Rhode Island discriminates against urban centers in both houses and most unjustly so in the case of the senate, whose apportionment is the least popular in basis of all houses in the United States.

The most noticeable feature of the New England legislatures is the slight restriction placed on their enormous powers. Aside from the veto there are almost no regulations of procedure, and

[3]In Connecticut, Rhode Island and Vermont, this body is the general assembly; in Maine, the legislature; and in New Hampshire and Massachusetts the general court. Massachusetts calls itself a Commonwealth, not a State.

[4]Connecticut, three hundred dollars; New Hampshire, two hundred dollars, and forty-five dollars as a maximum for a special session; Maine, one hundred and fifty dollars for the term; Massachusetts, seven hundred and fifty dollars, and Vermont, three dollars per day.

barely any restriction on special, local, or private legislation;[5] there are a few restrictions on their finance powers,[6] and some general regulation of education and of the militia. Little or nothing is said in regard to such important matters as administrative organization and regulation, local and municipal government,[7] and economic and corporate interests generally. Maine's prohibition amendment of 1884 is the only prominent regulation of social interests. Naturally this absence of restriction and regulation gives to the legislatures unusually large discretionary powers in all forms of legislation.

Suffrage qualifications likewise present some peculiar features and variations. In all the states voters must be citizens of the United States. In Maine a residence in the state of three months only is required; in New Hampshire he must be an inhabitant of a town; Rhode Island requires a two years' residence, except in the case of owners of real estate, for whom one year is sufficient. The other three states make the requirement one year. Four of the states have an educational requirement; in Connecticut the voter must be able to read English; in Massachusetts, Maine, and New Hampshire, he must be able to read English and write his name. Rhode Island has a requirement of a tax paid on property assessed at a value of at least one hundred and thirty-four dollars,[8] for suffrage in the election of members of city councils, or taxing referenda of towns or cities. The chief restriction on suffrage naturally is in those three states that by discrimination against urban centers thereby virtually throw the political control of the states into the hands of an easily manipulated rural oligarchy.

The judicial provisions of these six constitutions also present curious features. In general it may be said that the legislatures have, unlike those of other states, very large powers in defining the organization and powers of the several grades of courts. In Massachusetts, Maine and New Hampshire, the higher judges are appointed

[5]Maine requires the legislature to provide by general law, as far as practicable, for all matters usually appertaining to special or private legislation.

[6]Rhode Island and Maine fix a maximum for state debt; in the former state a referendum may authorize a special debt. Revenue bills may arise in either house in Connecticut and Rhode Island, but in the house of representatives in the other four states. New Hampshire by late amendment (1903) authorized a franchise and an inheritance tax.

[7]Massachusetts has a unique provision that all by-laws made by municipalities shall be subject at all times to be annulled by the General Court.

[8]The old forty shilling franchise.

by governor and council, in Vermont and Rhode Island by the assembly, and in Connecticut by the assembly on nomination of the governor. The tenure of the judges of the supreme court is two years in Vermont, seven years in Maine, eight years in Connecticut, and during good behavior in the other three states. A seventy-year age limit is fixed in Vermont and New Hampshire. In Rhode Island, on request of the governor or either house, the supreme court must give opinions on important questions of law. In Massachusetts and New Hampshire, in addition to the two houses, the governor and council, and in Maine the governor or council, have the same privilege, and the phrase "and on solemn occasions" is added to the conditions under which advice may be demanded. Among minor judicial officers it may be noted that Rhode Island alone of all the states in the Union elects its sheriffs through the assembly instead of by popular vote. The other New England constitutions expressly require that they be elected by the people.

The amending articles of New England constitutions contain several marked peculiarities. Vermont, Connecticut, Rhode Island, and Massachusetts, make no mention whatsoever of the constitutional convention, and must convoke it, if at all, under general legislative powers inherent in their state sovereignty. New Hampshire uses a convention for purposes of amendment, the power of amendment not being vested in the legislature. By constitution the several towns of the state every seven years must vote on the question whether or not a convention shall be called. If an affirmative vote is cast the membership is made up on the basis of the general court, and the results of the labors of this convention must be submitted as separate amendments to referendum vote and must be approved by a majority of two-thirds. These restrictions are so severe that few amendments have been or can be made to the constitution. Maine authorizes its legislature to convoke, without a referendum, a convention by a two-thirds vote of each house, but this power, given by amendment in 1875, has not yet been exercised. Amendments may be initiated by the legislature through a two-thirds vote of each house, and when submitted to referendum vote, must be approved by a majority of those voting thereon. In 1875 the legislature authorized the governor to appoint a commission of ten persons to report to the

legislature such amendments as seemed necessary. Nine of the seventeen amendments submitted by this commission were approved by the legislature, referred to the people, and adopted. This is one of the few instances of the use of a constituent commission.

The legislature of Rhode Island in 1897 tried the commission plan by authorizing the governor to appoint a body of fifteen persons to report to the legislature a revision of the constitution. The commission was seriously handicapped by the knowledge that its work must satisfy the demands of two successive legislatures. It succeeded in this but failed to satisfy the people, who voted down the revision in November, 1898. This result was far from satisfactory to the party in power, which had the revision repassed with a few verbal changes and submitted to referendum in June, 1899. It was again rejected by a larger adverse vote and thus ended the second of the two New England experiments of revision through commissions.

Omitting New Hampshire and Maine, the four remaining states amend through the action of two assemblies but with curious differences. In Vermont, at the end of every decade, dating from 1880, the senate (which represents population) by a two-thirds vote may submit amendments to the house (which represents the towns); if this approves by a majority vote,the amendments are referred to the next assembly, a majority vote of each house must then approve; this is followed by a referendum, and amendments must be approved by a majority of those voting thereon. Massachusetts allows amendments at any time but requires a majority of the senate and two-thirds of the house of the initiating general court, and a similar majority of each house of the next general court, followed by a referendum vote, in which a majority of those voting thereon, approves. Rhode Island requires the action of two assemblies, a majority of each house approving and a referendum; but requires approval by popular vote to be by a three-fifths vote. Connecticut initiates amendments by a majority vote of the house only;[9] these are referred to the next Assembly, and must be approved by a two-thirds vote of each house, and then on referendum by a majority vote of the electors. Connecticut, under the stress of urgent

[9]This body represents the towns, not the population.

demands for constitutional reform through a convention, called such a body in 1901 under the general legislative power vested in its assembly. The dominant political interests of the state, however, placed certain limitations on the convention's power of revision, and made assurance doubly sure by making up the membership of the convention by one delegate from each town, irrespective of population. The result was a revision unsatisfactory to all parties concerned, and its consequent rejection in 1902 by referendum vote. The house in 1905 submitted a revised constitution as an amendment. This made no material change, merely incorporating the amendments into the body of the constitution, and increasing the pay of assemblymen from three hundred to five hundred dollars. This revision must be acted on by the assembly of 1907, and then submitted to referendum vote.

These amending articles largely explain the reason why New England constitutions are old-fashioned. The legislative systems of Massachusetts and Maine are popular in basis and allow a fair expression of public opinion. A retention of old-fashioned features in these constitutions, therefore, implies a conservative policy and an unwillingness at present to initiate any important changes. It would certainly be a public boon, however, if the general court of Massachusetts would authorize the secretary of state to omit from the constitution its obsolete provisions, and to place amendments each under its proper article. New Hampshire though popularly organized in its legislature is restricted in amendment by its seven year requirement, its unwieldy convention of four hundred and fifteen members, and its preposterous requirement of a referendum majority of two-thirds. Rhode Island, Vermont, and Connecticut are not organized on a popular basis, amendments must meet the approval of a rural oligarchy, pass an ordeal of two assemblies, and in Rhode Island must have a majority on referendum of three-fifths. Under such conditions urban enterprise in these three states is suppressed, corruption in politics is encouraged, and broad progressive policies for economic and social development rendered impossible.

The question might well be raised in these and a few other states of the Union whether one generation has a right to bind future generations by such serious restrictions on the process of amendment. Certainly no irrepealable provision would have any

binding force on posterity, nor should an amending article be considered as legally binding that practically nullifies democratic principles and hinders economic and political progress. Sufficient precedent and theory could readily be formulated to justify a legislature which should disregard such stringent restrictions, and provide for a system of amendment more in accordance with a government founded on popular consent.

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